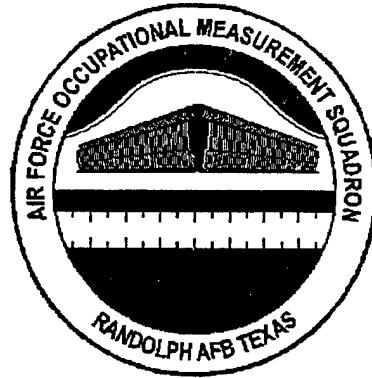




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UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT

MISSILE AND SPACE SYSTEMS
ELECTRONIC MAINTENANCE

AFSC 2M0X1A/B

OSSN 2276

MARCH 1998

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PREFACE

This report presents the results of an Air Force Occupational Survey of the Missile and Space Systems Electronic Maintenance career ladder, Air Force Specialty Code (AFSC) 2M0X1A/B. Authority for conducting occupational surveys is contained in AFI 36-2623. Copies of this report and pertinent computer printouts are distributed to the Air Force Functional Manager, the operations training location, all major using commands, and other interested operations and training officials.

The survey instrument was developed by Chief Master Sergeant Lionel Robertson, Inventory Development Specialist, with computer programming support furnished by Mr. Tyrone Hill. Mr. Richard G. Ramos provided administrative support. First Lieutenant Teri A. Heitmeyer, Occupational Analyst, analyzed the data and wrote the final report. This report has been reviewed and approved by Lieutenant Colonel Roger W. Barnes, Chief, Airman Analysis Section, Occupational Analysis Flight, Air Force Occupational Measurement Squadron (AFOMS).

Additional copies of this report can be obtained by writing to AFOMS/OMYXI, 1550 5th Street East, Randolph AFB TX 78150-4449, or by calling DSN 487-5543. For information on the Air Force occupational survey process or other on-going projects, visit our web site at <http://www.omsq.af.mil>.

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SUMMARY OF RESULTS

1. **Survey Coverage:** The Missile and Space Systems Electronic Maintenance career ladder was surveyed to evaluate changes in the AFSC 2M0X1A/B career ladder and obtain current task data for use in evaluating current training programs. This is the first Occupational Survey Report (OSR) conducted on this career ladder since AFSs 411X0/1/2, 411X0A, and 466X0 were combined in October 1993. Results are based on responses from 817 members worldwide (71 percent of the assigned population). All major commands were proportionally represented in the survey sample.
2. **Specialty Jobs:** Structure analysis of the AFSC 2M0X1A/B data reflects a diverse job structure, with five clusters and seven jobs identified: Electromechanical Technician (EMT) Job, Electronic Laboratory (ELAB) Technician Job, Verification and Checkout Equipment (VACE) Job, Storage and Handling Job, Missile Checkout Job, Supply and Equipment Cluster, Munitions Controller Cluster, Supervisor Cluster, Quality Assurance and Evaluation Job, Maintenance Scheduling Job, Instructor Cluster, Maintenance Controller Cluster. The "A" shred 3-skill level personnel can be found in the EMT Job and the "B" shred 3-skill level members perform the Missile Checkout Job.
3. **Career Ladder Progression:** Normal career ladder progression within the AFSC 2M0X1A/B career ladder is evident. Nearly all 3-skill level personnel spend the vast majority of their job time performing technical tasks involving general missile and launch facility maintenance. The majority of 5-skill level personnel work in the EMT Job, but are also spread into a greater variety of jobs than 3-skill level personnel, to include Quality Assurance and Evaluation, Instructor, and Munitions Controller. Five-skill level personnel are still technically oriented but are assuming greater supervisory responsibilities. Seven-skill level members devote most of their time to supervisory, management and training duties, although they are still involved in general missile maintenance activities to some degree
4. **Training Analysis:** Analysis of the Specialty Training Standard (STS) identified an excellently supported 2M031A STS and very well supported 2M031B STS. The 2M051/2M071 STS and attachments contained several areas that were not supported by over 20 percent of personnel. Additionally, there were several tasks with a high percentage of members performing which were not referenced in the 3-skill level STSs. The "A" and "B" shred Plans of Instruction (POIs) had only a few paragraphs not supported by the data. Many technical tasks performed by greater than 30 percent of first-job or first-enlistment members were not yet referenced to the "A" and "B" shred POIs.
5. **Job Satisfaction Analysis:** Job satisfaction measures for the AFSC 2M0X1A/B sample were average. No serious satisfaction problems were noted. Personnel working in the Storage and Handling, Missile Checkout, and Supply and Equipment jobs have the lowest job satisfaction of any jobs identified.

6. **Implications:** The data in the current AFSC 2M0X1A/B career field indicate many of the same jobs from the former AFSCs 411X0/1/2, 411X0A, and 466X0 still exist. Overlap in jobs exists in supervision, training, quality assurance and research activities. The current career ladder structure reflects a great deal of diversity within the career ladder. Career ladder progression is normal, showing a movement away from the technical tasks common at the lower "A" and "B" shred skill levels, as incumbents move toward the 7-skill level. Training documents are well supported, although several areas need review to justify either continued inclusion or exclusion.

OCCUPATIONAL SURVEY REPORT (OSR)
MISSILE AND SPACE SYSTEMS ELECTRONIC MAINTENANCE CAREER LADDER
AFSC 2M0X1A/B

INTRODUCTION

This is a report of an occupational survey of the Missile and Space Systems Electronic Maintenance career ladder, AFSC 2M0X1A/B, conducted by the Occupational Analysis Flight, Air Force Occupational Measurement Squadron (AFOMS). The career ladder is split at the 3-skill level between A and B shreds. The "A" shred personnel maintain intercontinental ballistic missile (ICBM) electronics; the "B" shred personnel maintain air launch cruise missiles (ALCM), conventional air launch cruise missiles (CALCM), and advanced cruise missiles (ACM) electronics. This survey will ensure current data for use in evaluating the effectiveness of training within the Missile and Space Systems Electronic Maintenance specialties.

AFSC 2M0X1A/B was created in October 1993 with the merger of former AFSCs 411X0/1/2, Missile System Maintenance (last surveyed in September 1993), 411X0A, Missile Systems Maintenance (last surveyed in October 1992), and 466X0, Air Launched Missile Systems (last surveyed in July 1993). This is the first OSR for the AFSC 2M0X1A/B career field since its inception.

Background

According to the AFMAN 36-2108 *Specialty Description*, dated 31 October 1994, personnel at the 3-skill level monitor the status of missiles, unmanned air vehicles (UAV), boosters, payloads, subsystems and support equipment. In addition, members operate or oversee checkout and test equipment; and perform missile, UAV, booster, and payload systems maintenance and launch processing. Three-skill level members also maintain ICBM coding activities and assist with malfunction analysis and repair of the missile, UAV, booster, and payload systems and subsystems. Finally, 3-skill level personnel perform maintenance on electronic equipment.

In addition to the above, 5-skill level members perform more in-depth maintenance and operation of missiles, ICBM, booster, UAVs, and ALCM. Seven-skill level members must additionally have experience performing or supervising ICBM or ALCM maintenance, spacelift, or research and development activities.

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Entry level personnel are required to attend technical training at either the 12-week, 2-day (L3AQR2M031A-400) or 12-week, 2-day (L3AQR2M031B-400) Electronic Principles course at Lackland AFB TX. Upon completion, personnel continue on to either the 11-week, 2-day Missile and Space Systems Electronic Maintenance Apprentice (ICBM) course, or the 14-week, 3-day Missile and Space Systems Electronic Maintenance Apprentice (ALCM/ACM) course. These apprentice courses prepare individuals for initial entry into either an ICBM (2M031A) or ALCM/ACM (2M031B) assignment.

Entry into AFSC 2M0X1A/B requires a General Armed Forces Vocational Aptitude Battery score requirement of Electronic 67. The strength factor for AFSCs 2M0X1A is K (70 lbs) and 2M0X1/1B is G (40 lbs).

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI), OSSN 2276, dated April 1997. A tentative task list was prepared after reviewing pertinent career ladder publications, directives and tasks from previous applicable OSRs. The preliminary task list was refined and validated through personal interviews with 80 subject-matter experts (SMEs) at the following locations:

<u>BASE</u>	<u>REASON FOR VISIT</u>
Vandenberg AFB CA	2M0X1 Technical School Space & Missile Test Center
Barksdale AFB LA	ALCM, CALCM, ACM
Eglin AFB FL	Wright Laboratory
Tyndall AFB FL	Drone Maintenance
Whiteman AFB MO	B-2 Rotary Launch System
F. E. Warren AFB WY	ICBM: Minuteman/Peacekeeper
Kirtland AFB NM	Phillips Laboratory
Grand Forks AFB ND	Minuteman System
Minot AFB ND	ALCM/ACM
Patrick AFB FL	Atlas, Delta, Titan
Dyess AFB TX	B-1 Rotary Launch System

Others contacted include Air Force major command (MAJCOM) functional managers and the career field training manager. The resulting JI contained a comprehensive listing of 809 tasks grouped under 14 duty headings, with a background section requesting such information as grade, job title, time in present job, time in service, time in career field, job satisfaction indicators, work schedule, and missiles maintained.

Survey Administration

From May 1997 through August 1997, survey control monitors at base training offices worldwide administered the inventory to all eligible DAFSC 2M0X1A/B personnel. Members eligible for the survey consisted of the total assigned 3-, 5-, and 7-skill level population, excluding the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring within the time the inventories were administered to the field and (4) personnel in their jobs less than 6 weeks. Participants were selected from a computer generated mailing list obtained from personnel data tapes maintained by the Air Force Personnel Center, Randolph AFB TX.

Each individual who completed the inventory first filled in an identification and biographical information section and then checked each task performed in his or her current job. After checking tasks performed, each individual rated the tasks on a 9-point scale showing relative time spent on that task, compared to other tasks performed. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount time spent).

To determine relative time spent for each task, all of the incumbent's ratings are assumed to account for 100 percent of time spent on the job and are summed. Each task rating is then divided by the total task ratings and multiplied by 100 to provide a relative percentage of time spent on each task.

Survey Sample

Personnel were selected to participate in this study so as to ensure an accurate representation across skill levels and paygrades. Table 1 reflects the MAJCOM distributions of assigned AFSC 2M0X1A/B personnel and those members included in the survey sample. Table 2 reflects the assigned personnel and sample distributions by paygrade groups. As shown by both tables, the survey sample accurately reflects the overall population of the career ladder.

TABLE 1
MAJCOM REPRESENTATION OF AFSC 2M0X1A/B SAMPLE

<u>MAJOR COMMAND</u>	<u>PERCENT OF ASSIGNED*</u>	<u>PERCENT OF SAMPLE</u>
AFSPC	62	62
ACC	32	31
AETC	4	5
AFMC	2	2
 TOTAL ASSIGNED	 1,143	
TOTAL ELIGIBLE**	1,051	
TOTAL IN SAMPLE	817	
PERCENT OF ASSIGNED IN SAMPLE	71%	
PERCENT OF ELIGIBLE IN SAMPLE	78%	

* Assigned strength as of May 1997
** Excludes personnel in PCS, student, or hospital status, or less than 6 weeks on the job

TABLE 2
PAYGRADE DISTRIBUTION OF SURVEY SAMPLE

<u>PAYGRADE</u>	<u>PERCENT OF ASSIGNED* (N=1143)</u>	<u>PERCENT OF SAMPLE (N=817)</u>
E-1 to E-3	23	25
E-4	25	23
E-5	27	29
E-6	13	13
E-7	11	10
E-8	-	0
E-9	-	0

* Assigned strength as of May 1997
- Less than 1 percent

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected senior AFSC 2M0X1A/B personnel (generally E-6 or E-7 craftsmen) also completed a second booklet for either training emphasis (TE) or task difficulty (TD). The TE and TD booklets were processed separately from the JIs. This information is used in a number of different analyses discussed in more detail within this report.

Training Emphasis (TE). TE is defined as the degree of emphasis that should be placed on each task for structured training of first-enlistment personnel. Structured training is defined as resident technical schools, field training detachments, mobile training teams, formal on-the-job training (OJT), or any other organized training method. The 64 senior AFSC 2M0X1 NCOs who completed a TE booklet were asked to select tasks they felt required some sort of structured training for entry-level personnel and then indicate how much training emphasis these tasks should receive, from 1 (extremely low emphasis) to 9 (extremely high emphasis). In this career ladder, the average TE rating was .90, with a standard deviation of .82. Tasks rated above 1.72 are high in TE and should be seriously considered for operational school training. The interrater reliability was found to be acceptable.

Task Difficulty (TD). Task difficulty is defined as the amount of time needed to learn how to do each task satisfactorily. The 79 senior NCOs who completed TD booklets were asked to rate the difficulty of each task in the inventory using a 9-point scale (extremely low to extremely high). AFSC 2M0X1A/B interrater agreement was acceptable. Ratings were standardized so tasks have an average difficulty of 5.00 and a standard deviation of 1.00. Any task with a TD rating of 6.00 or above is considered to be difficult to learn.

When used in conjunction with the primary criterion of percent members performing, TD and TE ratings can provide insight into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting Air Force Specialty entry-level jobs.

SPECIALTY JOBS (Career Ladder Structure)

Each Air Force occupational analysis begins with an examination of the career ladder structure. The structure of jobs within the Missile and Space Systems Electronic Maintenance career ladder was examined on the basis of similarity of tasks performed and the percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

Each individual in the sample performs a set of tasks called a *Job*. A hierarchical grouping program, which is a basic part of the Comprehensive Occupational Data Analysis Program system, creates an individual job description for each respondent (all the tasks performed by that individual and the relative amount of time spent on those tasks). It then compares each job description to every other job description in terms of tasks performed and the relative amount of time spent on each task in the JI. The automated system locates the two job descriptions with the most similar tasks and percent time ratings and combines them to form a composite job description. In successive stages, the system adds new members to the initial group and forms new groups based on the similarity of tasks performed and similar time ratings in the individual job descriptions.

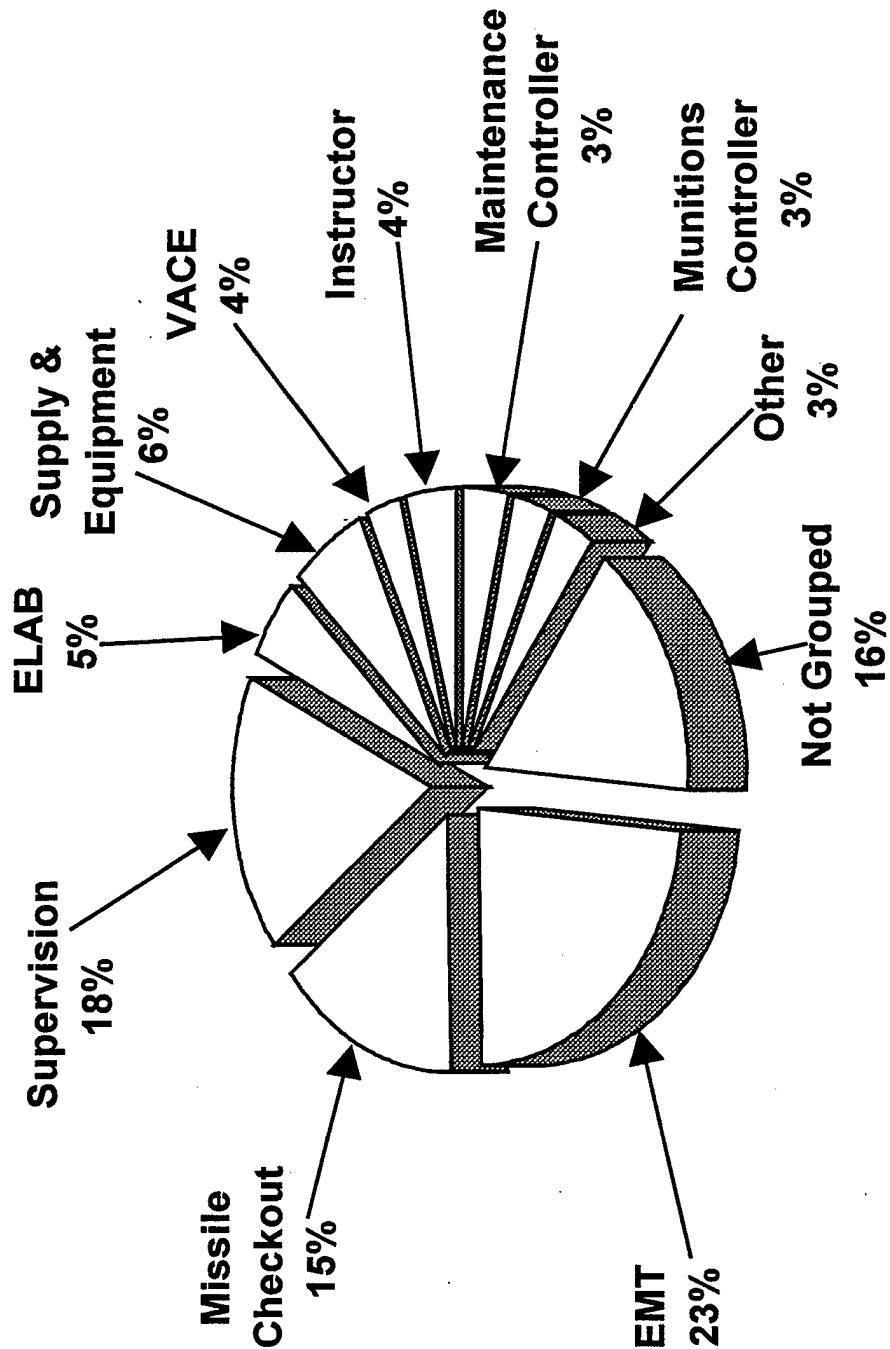
When there is a substantial degree of similarity between jobs, they are grouped together and identified as a *Cluster*. The job structure resulting from this grouping process (the various jobs and clusters within the career ladder) can be used to evaluate the accuracy of career ladder documents (Career Field Education and Training Plans (CFETP), AFMAN 36-2108 *Specialty Description*, and Specialty Training Standards (STS)), and to gain a better understanding of current utilization patterns.

Overview of Specialty Jobs

Considering the similarity of tasks performed and the amount of time spent performing each task, five clusters and seven jobs were identified within the AFSC 2M0X1A/B survey sample. A listing of these is provided below and illustrated in Figure 1.

- I. ELECTROMECHANICAL TECHNICIAN (EMT) JOB (STG113, N=190)
- II. ELECTRONIC LABORATORY (ELAB) TECHNICIAN JOB (STG114, N=41)
- III. VERIFICATION AND CHECKOUT EQUIPMENT (VACE) JOB (STG124, N=34)
- IV. STORAGE AND HANDLING JOB (STG255, N=11)
- V. MISSILE CHECKOUT JOB (STG084, N=120)
- VI. SUPPLY AND EQUIPMENT CLUSTER (STG101, N=50)
- VII. MUNITIONS CONTROLLER CLUSTER (STG098, N=24)
- VIII. SUPERVISOR CLUSTER (GP035, N=148)
- IX. QUALITY ASSURANCE AND EVALUATION JOB (STG093, N=6)
- X. MAINTENANCE SCHEDULING JOB (STG119, N=5)

FIGURE 1
AFSC 2M0X1A/B IDENTIFIED JOB STRUCTURE



Other: Storage & Handling, NCOIC, Quality Assurance, Maintenance

XI. INSTRUCTOR CLUSTER (STG060, N=29)

XII. MAINTENANCE CONTROLLER CLUSTER (STG058, N=26)

The respondents forming these groups account for 84 percent of the survey sample. The remaining 16 percent were performing tasks that did not group with any of the other defined jobs. Examples of job titles given by respondents that were representative of these personnel include: Security Manager, Parts Research Technician, and Technical Order Library Technician.

Group Descriptions

The following paragraphs contain brief descriptions of the five clusters and seven jobs identified through the career ladder structure analysis. Appendix A lists representative tasks performed by identified cluster and job groups. Table 3 displays time spent of duties, while Table 4 provides demographic information for each cluster and job discussed within this report.

I. ELECTROMECHANICAL TECHNICIAN (EMT) JOB (STG113). The 190 members of this cluster represent 23 percent of the total survey sample. Personnel within this cluster perform an average of 108 tasks and personnel perform a mixture of launch facility maintenance and general missile maintenance activities. Personnel in this job are responsible for the maintenance of the missile launch systems located at each site and as shown in Table 3, the majority of their time (38 percent) is spent in launch facility (LF) maintenance. This job is primarily composed of members holding the "A" shred. Commonly performed tasks for this job include:

- enter or exit LFs
- adjust, repair, replace, service, or troubleshoot electromechanical linear actuators (EMLAs)
- checkout, troubleshoot, or replace LF storage batteries
- checkout, troubleshoot, or repair LF power supply groups or sets
- isolate LF faults
- align, inspect, or repair telescoping ladders

Table 4 indicates members have a predominant paygrade of E-3 and average 5 years in the career field. Forty-nine percent of EMTs are in their first-enlistment. Common job titles found within the cluster include EMT Technician, EMT Team Member, and EMT Team Chief.

TABLE 3

AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER JOBS

DUTIES	EMT JOB (N=190)			ELAB JOB (N=41)			VACE JOB (N=34)			STORAGE & HANDLING JOB (N=11)			MISSILE CHECKOUT JOB (N=120)		
	5	8	9	3	1	4	2	5	10	74	42	0	6	0	0
A PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	5	8	9	3	1	4	2	5	10	74	42	0	6	0	0
B PERFORMING TRAINING ACTIVITIES	3	5	3	1	0	0	0	0	0	0	0	0	0	0	0
C PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER SYSTEM ACTIVITIES	1	6	4	2	0	0	0	0	0	0	0	0	0	0	0
D PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	3	6	5	2	0	0	0	0	0	0	0	0	0	0	0
E PERFORMING GENERAL MISSILE MAINTENANCE ACTIVITIES	35	40	30	30	30	30	30	30	30	30	30	30	30	30	30
F PERFORMING LAUNCH FACILITY (LF) MAINTENANCE ACTIVITIES	38	*	0	0	0	0	0	0	0	0	0	0	0	0	0
G PERFORMING MISSILE ALERT FACILITY (MAF) MAINTENANCE ACTIVITIES	13	*	0	0	0	0	0	0	0	0	0	0	0	0	0
H PERFORMING OPERATIONAL TEST LAUNCH ACTIVITIES	1	*	0	0	0	0	0	0	0	0	0	0	0	0	0
I PERFORMING ICBM ELECTRONIC LABORATORY (ELAB) ACTIVITIES	*	35	*	*	0	0	0	0	0	0	0	0	0	0	0
J MAINTAINING CRUISE MISSILES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K MAINTAINING MISSILE ELECTRIC OR ELECTRONIC SUPPORT EQUIPMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L MAINTAINING AIRCRAFT PYLONS OR ROTARY LAUNCHERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M PERFORMING SPACELIFT ACTIVITIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N PERFORMING RESEARCH AND DEVELOPMENT ACTIVITIES	*	0	*	*	0	0	0	0	0	0	0	0	0	0	*

* Indicates less than 1 percent

NOTE: Columns do not total 100 percent due to rounding

TABLE 3 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER JOBS

DUTIES	SUPPLY & EQUIPMENT CLUSTER (N=50)	MUNITIONS CONTROLLER CLUSTER (N=24)	SUPERVISION CLUSTER (N=148)	QUALITY ASSURANCE JOB (N=6)
A PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	10	24	62	46
B PERFORMING TRAINING ACTIVITIES	*	4	12	11
C PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER SYSTEM ACTIVITIES	3	64	10	12
D PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	67	6	8	7
E PERFORMING GENERAL MISSILE MAINTENANCE ACTIVITIES	19	2	5	17
F PERFORMING LAUNCH FACILITY (LF) MAINTENANCE ACTIVITIES	*	0	1	*
G PERFORMING MISSILE ALERT FACILITY (MAF) MAINTENANCE ACTIVITIES	0	0	*	0
H PERFORMING OPERATIONAL TEST LAUNCH ACTIVITIES	0	0	*	0
I PERFORMING ICBM ELECTRONIC LABORATORY (ELAB) ACTIVITIES	0	0	*	0
J MAINTAINING CRUISE MISSILES	0	0	*	3
K MAINTAINING MISSILE ELECTRIC OR ELECTRONIC SUPPORT EQUIPMENT	0	0	*	3
L MAINTAINING AIRCRAFT PYLONS OR ROTARY LAUNCHERS	0	0	*	*
M PERFORMING SPACELIFT ACTIVITIES	0	0	*	0
N PERFORMING RESEARCH AND DEVELOPMENT ACTIVITIES	0	0	*	0

* Indicates less than 1 percent

NOTE: Columns do not total 100 percent due to rounding

TABLE 3 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY CAREER LADDER JOBS

DUTIES	MAINT SCHEDULING JOB (N=5)	INSTRUCTOR CLUSTER (N=29)	MAINT CONTROLLER CLUSTER (N=16)
A PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	77	21	22
B PERFORMING TRAINING ACTIVITIES	13	54	12
C PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER SYSTEM ACTIVITIES	8	5	3
D PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	2	6	1
E PERFORMING GENERAL MISSILE MAINTENANCE ACTIVITIES	0	9	*
F PERFORMING LAUNCH FACILITY (LF) MAINTENANCE ACTIVITIES	0	*	0
G PERFORMING MISSILE ALERT FACILITY (MAF) MAINTENANCE ACTIVITIES	0	0	0
H PERFORMING OPERATIONAL TEST LAUNCH ACTIVITIES	0	0	*
I PERFORMING ICBM ELECTRONIC LABORATORY (ELAB) ACTIVITIES	0	0	*
J MAINTAINING CRUISE MISSILES	0	4	*
K MAINTAINING MISSILE ELECTRIC OR ELECTRONIC SUPPORT EQUIPMENT	0	1	0
L MAINTAINING AIRCRAFT PYLONS OR ROTARY LAUNCHERS	0	0	0
M PERFORMING SPACELIFT ACTIVITIES	0	0	61
N PERFORMING RESEARCH AND DEVELOPMENT ACTIVITIES	0	0	*

* Indicates less than 1 percent

NOTE: Columns do not total 100 percent due to rounding

TABLE 4

SELECTED BACKGROUND DATA FOR CAREER LADDER JOBS

	<u>EMT JOB</u>	<u>ELAB JOB</u>	<u>VACE JOB</u>	<u>STORAGE & HANDLING JOB</u>	<u>MISSILE CHECKOUT JOB</u>	<u>SUPPLY & EQUIPMENT CLUSTER</u>
NUMBER IN GROUP	190	41	34	11	120	50
PERCENT OF SAMPLE	23%	5%	4%	1%	15%	6%
PERCENT IN CONUS	99%	100%	97%	100%	100%	100%
<u>DAFSC DISTRIBUTION:</u>						
2M031A	47%	2%	0%	0%	0%	64%
2M031B	0%	0%	3%	100%	61%	4%
2M053	46%	85%	88%	0%	34%	26%
2M073	7%	12%	9%	0%	5%	6%
<u>PAYGRADE DISTRIBUTION:</u>						
E-1 to E-3	41%	0%	0%	100%	51%	64%
E-4	35%	22%	35%	0%	28%	20%
E-5	19%	71%	53%	0%	18%	12%
E-6	4%	7%	9%	0%	3%	2%
E-7	1%	0%	3%	0%	1%	2%
E-8	0%	0%	0%	0%	0%	0%
AVERAGE MONTHS IN CAREER FIELD	61	114	114	11	53	48
AVERAGE MONTHS IN SERVICE	65	123	115	17	60	53
PERCENT IN FIRST ENLISTMENT	49%	2%	3%	100%	53%	64%
PERCENT SUPERVISING	18%	42%	35%	0%	34%	16%
AVERAGE NUMBER OF TASKS PERFORMED	108	102	115	20	87	15

TABLE 4 (CONTINUED)

SELECTED BACKGROUND DATA FOR CAREER LADDER JOBS

	MUNITIONS CONTROLLER CLUSTER	SUPERVISION CLUSTER	QUALITY ASSURANCE JOB	MAINT SCHEDULING JOB	INSTRUCTOR CLUSTER	MAINT CONTROLLER CLUSTER
NUMBER IN GROUP	24	148	6	5	29	16
PERCENT OF SAMPLE	3%	18%	*	*	4%	2%
PERCENT IN CONUS	100%	99%	100%	100%	100%	100%
<u>DAFSC DISTRIBUTION:</u>						
2M031A	0%	0%	0%	0%	0%	0%
2M031B	8%	1%	50%	0%	0%	0%
2M053	75%	30%	50%	80%	83%	35%
2M073	17%	69%	0%	20%	17%	65%
<u>PAYGRADE DISTRIBUTION:</u>						
E-1 to E-3	8%	1%	0%	0%	0%	0%
E-4	46%	3%	17%	20%	34%	0%
E-5	29%	24%	50%	40%	48%	42%
E-6	17%	30%	33%	20%	14%	50%
E-7	0%	41%	0%	20%	3%	8%
E-8	0%	1%	0%	0%	0%	0%
AVERAGE MONTHS IN CAREER	95	167	130	142	109	164
FIELD						
AVERAGE MONTHS IN SERVICE	106	187	141	150	119	165
PERCENT IN FIRST ENLISTMENT	8%	1%	0%	0%	0%	0%
PERCENT SUPERVISING	37%	85%	17%	40%	41%	28%
AVERAGE NUMBER OF TASKS PERFORMED	21	60	35	17	34	87

II. ELECTRONIC LABORATORY (ELAB) TECHNICIAN JOB (STG114). The 41 members of this job make up only 5 percent of the survey sample. They perform an average of 102 tasks, and spend the majority of their time (40 percent) performing general missile maintenance and checkouts of electronic equipment, as well as repairing and supplying that equipment for EMTs in the field (see Table 3). Representative tasks for this job include:

- checkout, troubleshoot, or repair equipment using AN/GSM-315 (E-35)
- checkout, troubleshoot, or repair AN/GSM-315 automatic test stations (E-35)
- checkout, troubleshoot, or repair equipment using AN/GSM-82
- remove or install integrated circuit cards or printed circuit card assemblies
- strap or adjust electronic equipment drawers
- inspect AN/GSM automatic test stations (E-35)
- perform soldering

As shown in Table 4, personnel working in the ELAB Technician Job average 10 years and 3 months Total Active Federal Military Service (TAFMS), and 42 percent of them are supervising. Eighty-five percent of the personnel are at the 5-skill level and 71 percent of the incumbents are in paygrade E-5.

III. VERIFICATION AND CHECKOUT EQUIPMENT (VACE) JOB (STG124). The 34 members of this cluster make up 4 percent of the survey sample and perform an average of 115 tasks. Personnel within this job indicated spending 42 percent of their time performing tasks related to maintaining missile electric or electronic support equipment in addition to performing general missile maintenance, and management and supervisory activities (30 percent and 9 percent, respectively). Representative tasks performed by members of this cluster are:

- perform fault isolations of electronic system test sets (ESTSs)
- perform ESTS operational assurance tests
- perform ESTS autocalibrations
- perform ESTS calibration certification tests
- perform periodic inspections on interconnecting or adapter groups
- remove or replace ESTS components
- perform periodic inspections on ESTSs

Members of this job average 9 years and 6 months in the career field and have an average paygrade of E-5. Table 4 indicates that 88 percent of VACE personnel are at the 5-skill level and only 3 percent are in their first enlistment.

IV. STORAGE AND HANDLING JOB (STG255). The 11 members of this job make up 1 percent of the survey sample. The cluster is comprised of 3-skill level "B" shred members who perform an average of 20 tasks (see Table 4). Most of their time is spent performing general storage and handling activities of ALCM, CALCM, and ACM missiles. Representative tasks for this job include:

- crate or uncrate missiles
- perform launcher or pylon transfer procedures
- clean missile support equipment
- paint or stencil identifiers or instructions on equipment or weapons
- inspect missile handling units
- perform corrosion control procedures
- inspect hoisting units, slings, or adapters
- perform escort duties

Personnel working in this job have an average of 17 months time in service. One-hundred percent of the members are in their first enlistment.

V. MISSILE CHECKOUT JOB (STG084). The 120 members of this job make up 15 percent of the survey sample. They perform an average of 87 tasks, and most of their time is spent maintaining cruise missiles and performing general missile maintenance, as reflected in Table 3. Representative tasks which distinguish this job from others include:

- perform cruise missile level 1 checkouts
- remove or replace cruise missile engines
- deploy or stow cruise missile aerosurfaces
- perform AFM-86/C inertial navigation element (INE) autocalibrations (ACALs)
- perform cruise missile ECS leak checks
- remove or replace INEs
- perform leak checks of AFM-86B/C engines

Personnel working in the Missile Checkout Job average 5 years TAFMS, and 53 percent are in their first enlistment. Sixty-one percent of these people are at the "B" shred, 3-skill level and 45 percent of the incumbents of this job are at the 5-skill level, as seen in Table 4.

VI. SUPPLY AND EQUIPMENT CLUSTER (STG101). The 50 members of this job represent 6 percent of the total survey sample. They perform an average of 15 tasks, and most of their time is spent in general supply and equipment activities as reflected in Table 3. Representative tasks performed include:

- evaluate serviceability of equipment, tools, parts or supplies
- store equipment, tools, parts, or supplies
- inventory equipment, tools, parts, or supplies
- issue log turn-ins or equipment, tools, parts, or supplies
- pick up or deliver equipment, tools, parts, or supplies
- identify and report equipment or supply problems

The Supply and Equipment Cluster is identified by two distinct jobs: Vehicle Control and Equipment. In addition to vehicle responsibilities, Vehicle Controllers also spend a large amount of time in general missile maintenance and hold an average of E-2 as their paygrade. The Equipment personnel spend 76 percent of their time in supply and equipment activities and predominantly have a paygrade of E-3. Sixty-four percent of the incumbents of this cluster are in their first enlistment.

VII. MUNITIONS CONTROLLER CLUSTER (STG072). The 24 members of this cluster make up 3 percent of the survey sample. They perform an average of 21 tasks, and most of their time is spent performing general administrative and technical order system activities, as reflected in Table 3. Members of this job are responsible for tracking movements of aircraft and their missiles. Seventy-five percent of personnel belong to DAFSC 2M051. Representative tasks that distinguish this job from others include:

- access and maintain safes
- annotate security forms for facilities or security containers
- inventory classified materials
- destroy classified materials
- safeguard classified materials
- compile data for records, reports, logs, or trend analysis

Personnel in the Munitions Controller Cluster work in one of two areas: Integrated Maintenance Facilities (IMF) Job or Munitions Control Job. IMF personnel spend more time with management and supervisory activities with a predominant paygrade of E-5 and perform an average of 30 tasks. Seventy-five percent of members in this job work in the AFSPC MAJCOM. Munitions Controllers hold a paygrade of E-4 and only perform an average of 12 tasks. Sixty-seven percent of members in this job belong to the ACC MAJCOM.

VIII. SUPERVISOR CLUSTER (GP035). The 148 members of this cluster represent 18 percent of the total survey sample. Personnel within this cluster perform an average of 60 tasks, and as with most career ladders they are more senior personnel who perform a mixture of technical and supervisory tasks. As shown in Table 3, the majority of their time (62 percent) is spent on management and supervisory activities. Commonly performed tasks for this cluster include:

- participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting
- supervise military personnel
- evaluate personnel for compliance with performance standards
- conduct supervisory performance feedback sessions
- counsel subordinates concerning personal matters
- conduct self-inspections or self-assessments
- determine or establish work assignments or priorities

Table 4 indicates 41 percent of members hold a paygrade of E-7 and average over 13 years in the career field; 69 percent of these supervisors hold a 7-skill level. As expected, only 1 percent are in their first enlistment. Common job titles found within the cluster include Shop Chief, Flight Chief, Program Manager and Instructor Supervisor. The five distinct jobs within this cluster include: NCIOC, Inspection, Shop Chief, Instructor, and Test and Evaluation.

IX. QUALITY ASSURANCE AND EVALUATION JOB (STG093). The 6 members of this job make up less than 1 percent of the survey sample. They perform an average of 35 tasks and much of their time is spent evaluating training, equipment, and facilities. In addition, they perform management and supervisory activities (46 percent), administrative and technical order system activities, and training activities. Relative tasks for this job include:

- evaluate serviceability of equipment, tools, parts or supplies
- evaluate training methods or techniques of instructors
- review technical order changes
- evaluate maintenance or utilization of equipment, tools, parts, supplies, or workspace
- write inspection reports
- evaluate job hazards or compliance with Air Force Occupational Safety and Health (AFOSH) Program
- conduct safety inspections of equipment or facilities

The predominant paygrade for the Quality Assurance and Evaluation Job is E-5 and 50 percent of incumbents have a DAFSC of 2M051. The other half of personnel in this job have a DAFSC of 2M031B. The average amount of time in the career field is 10 years and 9 months, as seen in Table 4.

X. MAINTENANCE SCHEDULING JOB (STG119). The 5 members of this job make up less than 1 percent of the survey sample and are primarily concerned with management and supervisory activities responsible for work assignments and priorities in the AFSPC MAJCOM. These members perform an average of 17 tasks. Tasks distinguishing this job include:

- determine or establish work assignments or priorities
- develop or establish work schedules
- participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting
- plan briefings, conferences, or workshops
- schedule work assignments or priorities
- determine or establish logistics requirements, such as personnel, equipment, tools, parts, supplies, or workspace

Eighty percent of these personnel have a DAFSC of 2M051 and hold a predominant paygrade of E-5. Members of the Maintenance Scheduling Job have an average of 12 years and 6 months TAFMS. There are no members who are in their first enlistment.

XI. INSTRUCTOR CLUSTER (STG060). The 29 members of this cluster make up 4 percent of the survey sample. The members of this cluster are concerned with conducting training. They perform an average of 34 tasks. Representative tasks of this cluster include:

- administer or score tests
- conduct formal course classroom training
- develop training materials or aids
- personalize lesson plans
- counsel trainees on training

The members of the Instructor Cluster have a fairly high level of experience with an average of 9 years and 11 months TAFMS. Eighty-three percent of the members in this job hold a DAFSC of 2M051 and there are no members in their first-enlistment. The two jobs identified within the cluster are the Electronic Instructors at Lackland AFB TX and the Missile Instructors at Vandenberg AFB TX.

XII. MAINTENANCE CONTROLLER CLUSTER (STG038). The 26 members of this group account for 2 percent of the survey sample. The maintenance controller personnel are primarily concerned with space launch systems and payloads. Members act as a liaison between missile support agencies and the Air Force. These members perform an average of 87 tasks. Representative tasks include:

- ensure compliance with booster electrical power system checkouts
- approve procedural changes or deviations
- ensure compliance with booster navigation, guidance, or control system checkouts
- ensure compliance with anomaly resolution or troubleshooting procedures
- ensure compliance with booster flight termination system checkouts
- ensure compliance with electrical aerospace ground equipment (AGE) inspections or qualification tests

Personnel in this job group work in one of three primary areas: Space Launch Control, Spacelift Control, or Spacecraft Maintenance. The predominant paygrades for each job are E-5 and E-6. Members of this cluster have an average of 13 years and 9 months TAFMS. Sixty-five percent of the personnel in this group have a DAFSC of 2M071 with no members in their first-enlistment, as seen in Table 4.

Comparison to Previous Study

Results of the specialty job analysis were compared to those of the last OSR in October 1992 (411X0A), July 1993 (466X0), and September 1993 (411X0/1/2). With some variance in the job titles among the four studies, the tasks that personnel performed in the previous OSRs are generally found in the current study. Table 5 displays the comparison of jobs identified in the present study to those identified in the previous comparable studies. The common jobs among all three previous studies were the Supervision Cluster, Instructor Cluster, and Quality Assurance and Evaluation functions performed by all three AFSCs. Examples of jobs identified in previous studies, but not the current study include: Environmental Defense System Job, Briefing Job, Technical Engineering Team Independent Job Type, and Technical Order Librarian. The basic career ladder structure was not greatly affected.

Summary

In summary, specialty job analysis reveals the Missile and Space Systems Electronic Maintenance career ladder to be quite heterogeneous, due to the different Missile and Space Systems. Five clusters and seven jobs were identified: Electromechanical Technician Job, Electronic Laboratory Technician Job, Verification and Checkout Equipment Job, Storage and Handling Job, Missile Checkout Job, Supply and Equipment Cluster, Munitions Controller Cluster, Supervisor Cluster, Quality Assurance and Evaluation Job, Instructor Cluster and Maintenance Controller Cluster. The type of systems worked on are clearly separated the 3-skill level "A" and "B" shreds.

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with analysis of the career ladder structure, is an important part of each occupational survey. DAFSC analysis examines differences in tasks performed between skill levels. This information may then be used to evaluate how well career ladder documents, such as AFMAN 36-2108 *Specialty Descriptions*, reflect what career ladder personnel are doing in the field.

The distribution of AFSC 2M0X1A/B skill-level groups across career ladder clusters and jobs is displayed in Table 6. As expected, the highest concentration of "A" shred members is in the Electromechanical Job and the Supply and Equipment Cluster; "B" shred personnel are focused in the Missile Checkout Job. These are the core jobs of the AFSC 2M0X1A/B career ladder and serve as the starting point for the new, less experienced personnel. As personnel progress through the career ladder, they begin to move into traditional management and supervisory roles, as indicated by the higher percentage of 7-skill level personnel found in the Supervision Cluster.

TABLE 5

COMPARISON OF JOB GROUPS IN CURRENT STUDY
TO PREVIOUS STUDY

	1997 STUDY (AFSC 2M0X1A/B) (N=817)	1992 STUDY (AFSC 411X0A) (N=618)	1993 STUDY (411X0/1/2) (N=58)	1993 STUDY (AFSC 466X0) (N=588)
• EMT JOB	• EMT CLUSTER	• *	• *	• *
• ELAB JOB	• TRAINER MAINTENANCE IJT	• *	• MISSILE MAINTENANCE CLUSTER	•
• VACE JOB	• ELAB CLUSTER	• *	• ELECTRONIC EQUIPMENT MAINTENANCE JOB	• *
• STORAGE & HANDLING JOB	• TRAINER MAINTENANCE IJT	• *	• *	• *
• MISSILE CHECKOUT JOB	• EQUIPMENT CONTROL IJT	• *	• *	• *
• SUPPLY & EQUIPMENT CLUSTER	• JOB CONTROL	• *	• SUPPLY JOB	•
• MUNITIONS CONTROLLER CLUSTER	• EQUIPMENT CUSTODIAL IJT	• *	• MUNITIONS CONTROLLER JOB	•
• SUPERVISOR CLUSTER	• *	• *	• MISSILE MAINTENANCE MANAGEMENT CLUSTER	•
• QUALITY ASSURANCE & EVALUATION JOB	• SUPERVISORY CLUSTER	•	• MISSILE ANALYST JOB	•
• MAINTENANCE SCHEDULING JOB	• QUALITY ASSURANCE (QA) INSPECTION-EVALUATION IJT	•	• RESEARCH & DEVELOPMENT JOB	•
• INSTRUCTOR CLUSTER	• MAINTENANCE PLANNING-SCHEDULING IJT	• *	• *	• *
• MAINTENANCE CONTROLLER CLUSTER	• TECHNICAL COURSE INSTRUCTION IJT	• *	• *	• *
	• INSTRUCTIONAL SYSTEMS DESIGN IJT	• *	• SPACE LAUNCH OPERATIONS	• *
			• CONTROLLER JOB	
			• PAYLOAD LAUNCH OPERATIONS	
			• CONTROLLER CLUSTER	

TABLE 6
DISTRIBUTION OF SKILL-LEVEL MEMBERS ACROSS SPECIALTY JOBS
(PERCENT RESPONDING)

JOB	DAFSC 2M031A/B		DAFSC 2M051	DAFSC 2M071
	2M031A (N=141)	2M031B (N=92)	TOTAL SAMPLE (N=390)	TOTAL SAMPLE (N=194)
I. EMT	63	0	22	7
II. ELAB	1	1	9	3
III. VACE	0	0	8	2
IV. MAINTENANCE CONTROLLER	0	0	2	9
V. STORAGE & HANDLING	0	11	0	0
VI. MISSILE CHECKOUT	0	79	11	3
VII. SUPPLY & EQUIPMENT	23	2	3	1
VIII. SUPERVISION	0	1	11	52
IX. QUALITY ASSURANCE	0	0	1	2
X. MAINTENANCE SCHEDULING	0	0	1	1
XI. INSTRUCTOR	0	0	6	3
XII. MUNITIONS CONTROLLER	0	2	5	2
NOT GROUPED	13	4	20	14

Table 7 offers another perspective by displaying the relative percent time spent on each duty across skill-level groups. As expected, 3-skill level members are primarily involved in general missile maintenance activities and launch facility maintenance. Five-skill level members are also involved in performing general avionics maintenance activities, but span into training and supervision activities. Seven-skill level members perform a variety of training, supervisor and management duties. Specific skill-level group discussions are presented below.

Skill-Level Descriptions

DAFSC 2M031A. The 141 3-skill level personnel of this shred, representing 17 percent of the survey sample, perform an average of 67 tasks. "A" shred members work primarily on ICBM maintenance. Table 6 show that 63 percent of this group work in the Electromechanical Technician Job and 23 percent work in the Supply and Equipment Cluster. Thirty-five percent of their job time is spent performing general missile maintenance activities (see Table 7). Table 8 lists representative tasks these members perform, demonstrating the basic technical nature of their work.

DAFSC 2M031B. The 92 3-skill level personnel of this shred, representing 11 percent of the survey sample, perform an average of 59 tasks. Table 6 shows that 79 percent of this group work in the Missile Checkout Job. Forty percent of their job time is spent performing general missile maintenance and another 38 percent of their time is spent maintenance ALCM, CALCM, and ACMs (see Table 7). Table 9 lists representative tasks these members perform.

DAFSC 2M051. The 390 5-skill level airmen represent 48 percent of the survey sample and perform an average of 70 tasks. At the 5-skill level, members perform a greater diversity of jobs than the 3-skill levels, as shown in Table 6. Twenty-one percent of their relative job time is devoted to duties in general missile maintenance and another 21 percent of their time is spent performing supervisory and management activities (see Table 7). Table 10 displays representative tasks performed by the highest percentages of these airmen. Members are distinguished from their 3-skill level counterparts by the greater number of tasks and the greater amount of supervision 5-skill level personnel perform (see Tables 11 and 12).

DAFSC 2M071. The 194 NCOs in the 7-skill level group (24 percent of the survey sample) perform an average of 67 tasks. Fifty-nine percent of their relative job time is spent on the usual supervisory, managerial, and training duties, reflecting a first-line supervisory role for these more senior personnel (see Table 7). Table 13 displays the representative tasks performed by 7-skill level incumbents. Table 14 clearly distinguishes the primary differences between 5- and 7-skill level personnel. Fifty-two percent of members in this group work in the Supervision Cluster (see Table 6).

TABLE 7

TIME SPENT ON DUTIES BY AFSC 2M0X1A/B SKILL LEVEL GROUPS
(RELATIVE PERCENT OF JOB TIME)

<u>DUTIES</u>		DAFSC 2M031A (N=141)	DAFSC 2M031B (N=92)
A PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES		4	2
B PERFORMING TRAINING ACTIVITIES	*		1
C PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER SYSTEM ACTIVITIES	3		3
D PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	19		6
E PERFORMING GENERAL MISSILE MAINTENANCE ACTIVITIES	35		40
F PERFORMING LAUNCH FACILITY (LF) MAINTENANCE ACTIVITIES	30		*
G PERFORMING MISSILE ALERT FACILITY (MAF) MAINTENANCE ACTIVITIES	9		0
H PERFORMING OPERATIONAL TEST LAUNCH ACTIVITIES	*		0
I PERFORMING ICBM ELECTRONIC LABORATORY (ELAB) ACTIVITIES	*		*
J MAINTAINING CRUISE MISSILES	0		38
K MAINTAINING MISSILE ELECTRIC OR ELECTRONIC SUPPORT EQUIPMENT	0		3
L MAINTAINING AIRCRAFT PYLONS OR ROTARY LAUNCHERS	0		7
M PERFORMING SPACELIFT ACTIVITIES	0		0
N PERFORMING RESEARCH AND DEVELOPMENT ACTIVITIES	*		0

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 7 (CONTINUED)

TIME SPENT ON DUTIES BY AFSC 2M0X1A/B SKILL LEVEL GROUPS
(RELATIVE PERCENT OF JOB TIME)

DUTIES	DAFSC 2M051 (N=390)	DAFSC 2M071 (N=194)
A PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	21	50
B PERFORMING TRAINING ACTIVITIES	11	9
C PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER SYSTEM ACTIVITIES	10	10
D PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	9	7
E PERFORMING GENERAL MISSILE MAINTENANCE ACTIVITIES	21	8
F PERFORMING LAUNCH FACILITY (LF) MAINTENANCE ACTIVITIES	8	3
G PERFORMING MISSILE ALERT FACILITY (MAF) MAINTENANCE ACTIVITIES	3	1
H PERFORMING OPERATIONAL TEST LAUNCH ACTIVITIES	*	*
I PERFORMING ICBM ELECTRONIC LABORATORY (ELAB) ACTIVITIES	3	1
J MAINTAINING CRUISE MISSILES	4	1
K MAINTAINING MISSILE ELECTRIC OR ELECTRONIC SUPPORT EQUIPMENT	4	*
L MAINTAINING AIRCRAFT PYLONS OR ROTARY LAUNCHERS	2	*
M PERFORMING SPACELIFT ACTIVITIES	2	8
N PERFORMING RESEARCH AND DEVELOPMENT ACTIVITIES	*	*

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 8
REPRESENTATIVE TASKS PERFORMED BY DAFSC 2M031A PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=141)
F292 Enter or exit LFs	70
E184 Inspect or install safety devices, such as safety barriers, lanyards, or personnel harnesses	69
F275 Adjust, repair, replace, service, or troubleshoot electromechanical linear actuators (EMLAs)	66
E195 Perform checkouts of batteries	65
F276 Align, inspect, or repair telescoping ladders	63
E210 Perform missile electronic encryption device (MEED) procedures	62
F287 Checkout, troubleshoot, or replace LF storage batteries	60
F295 Isolate LF faults	59
F281 Checkout or troubleshoot improved minuteman physical security systems (IMPSSs)	57
F297 Perform aerospace vehicle equipment (AVE) startups, other than WS-118 AVE startups	57
E204 Perform fault isolations	57
E174 Inspect hoisting units, slings, or adapters	56
E172 Inspect equipment on receipt	55
E160 Clean launch facilities (LFs)	55
D142 Evaluate serviceability of equipment, tools, parts, or supplies	49
D147 Inventory equipment, tools, parts, or supplies	44
D153 Pick up or deliver equipment, tools, parts, or supplies	41
E181 Inspect safety devices, such as pins, chocks, or flags	41
E156 Assemble or configure maintenance team vehicles, equipment, or materials	36
D143 Identify and report equipment or supply problems	35
D154 Store equipment, tools, parts, or supplies	34
D148 Issue or log turn-ins of equipment, tools, parts, or supplies	28
A9 Conduct safety inspections of equipment or facilities	23

Average number of tasks performed = 67

TABLE 9
REPRESENTATIVE TASKS PERFORMED BY DAFSC 2M031B PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=92)
J464 Perform cruise missile level 1 checkouts	82
J477 Remove or replace cruise missile engines	82
J455 Deploy or stow cruise missile aerosurfaces	79
J459 Perform AGM-86B/C inertial navigation element (INE) autocalibrations (ACALs)	78
J460 Perform cruise missile ECS leak checks	77
J454 Crate or uncrate missiles	76
J483 Remove or replace desiccant assemblies	76
J497 Remove or replace INEs	76
E174 Inspect hoisting units, slings, or adapters	75
J468 Perform leak checks of AGM-86B/C engines	74
E201 Perform corrosion control procedures	73
J463 Perform cruise missile fuel primings	73
E163 Clean missile surfaces	72
E155 Apply fillers, paints, sealers, or adhesives	68
E179 Inspect missile test stands, such as MSU-179/E	68
L593 Perform empty launcher checkouts	66
E177 Inspect missile handling units	65
E162 Clean missile support equipment	65
J503 Remove or replace rotary or separation switches	63
J492 Remove or replace flight data transmitters	62
J456 Fuel or defuel cruise missiles	61
L596 Perform loaded cruise missile pylon or CSRL checkouts	60
J510 Repair desiccant assemblies	58
E269 Safetywire equipment	58
E181 Inspect safety devices, such as pins, chocks, or flags	58
E203 Perform escort duties	58
E187 Open or close alarmed facilities	55
E272 Transport missiles on other than pylons or launchers	53
E238 Remove or replace access covers, plates, panels, or raceway covers	51
D147 Inventory equipment, tools, parts, or supplies	41
E206 Perform launcher or pylon transfer procedures	26

TABLE 10

REPRESENTATIVE TASKS PERFORMED BY DAFSC 2M051 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=390)
D147 Inventory equipment, tools, parts, or supplies	46
A59 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	43
D142 Evaluate serviceability of equipment, tools, parts, or supplies	42
A72 Supervise military personnel	41
A9 Conduct safety inspections of equipment or facilities	41
A43 Evaluate personnel for compliance with performance standards	39
C109 Annotate security forms for facilities or security containers	38
A6 Conduct self-inspections or self-assessments	37
A55 Inspect personnel for compliance with military standards	36
A16 Determine or establish work assignments or priorities	35
C108 Access and maintain safes	35
B84 Conduct OJT	35
B99 Maintain training records or files	32
D154 Store equipment, tools, parts, or supplies	31
D153 Pick up or deliver equipment, tools, parts, or supplies	31
A21 Develop or establish work methods or procedures	31
C110 Compile data for records, reports, logs, or trend analyses	23
B90 Develop training materials or aids	23
D139 Coordinate supply-related matters with appropriate agencies	22
D140 Coordinate maintenance of equipment with appropriate agencies	20
C132 Maintain or update status indicators, such as boards, graphs, or charts	18
A70 Schedule work assignments or priorities	18

Average number of tasks performed = 70

TABLE 11

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 2M031A AND DAFSC 2M051 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 2M031A (N=14)	DAFSC 2M051 (N=390)	DIFFERENCE
F292 Enter or exit LFs	70	23	47
F275 Adjust, repair, replace, service, or troubleshoot electromechanical linear actuators (EMLAs)	66	21	45
F278 Change secondary door lock combinations	65	20	45
E210 Perform missile electronic encryption device (MEED) procedures	62	18	44
F300 Perform LF emergency procedures	64	22	42
F276 Align, inspect, or repair telescoping ladders	63	22	41
F302 Perform normal missile shutdown procedures	61	20	41
F293 Evacuate LFs for emergency war order (EWO) launch conditions	60	19	41
F308 Read out or record local data words	60	19	41
F280 Checkout or repair programmer groups	60	20	40
F285 Checkout, troubleshoot, or repair LF power supply groups or sets	60	21	39
F297 Perform aerospace vehicle equipment (AVE) startups, other than WS-118 AVE startups	57	18	39
<hr/>			
B99 Maintain training records or files	1	32	-31
C108 Access and maintain safes	3	35	-32
A6 Conduct self-inspections or self-assessments	5	37	-32
C109 Annotate security forms for facilities or security containers	4	38	-34
A55 Inspect personnel for compliance with military standards	2	36	-34
B84 Conduct OJT	1	35	-34
A8 Conduct supervisory performance feedback sessions	2	37	-35
A72 Supervise military personnel	4	41	-37
A12 Counsel subordinates concerning personal matters	1	39	-38

TABLE 12

**TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 2M031B AND DAFSC 2M051 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	DAFSC 2M031B (N=92)	DAFSC 2M051 (N=390)	DIFFERENCE
J464 Perform cruise missile level 1 checkouts	82	12	70
J477 Remove or replace cruise missile engines	82	12	70
J459 Perform AGM-86B/C inertial navigation element (INE) autocalibrations (ACALs)	78	10	68
J455 Deploy or stow cruise missile aerosurfaces	79	12	67
J483 Remove or replace desiccant assemblies	76	11	65
J454 Crate or uncrate missiles	76	11	65
J460 Perform cruise missile ECS leak checks	77	12	65
J497 Remove or replace INEs	76	11	65
J463 Perform cruise missile fuel primings	73	10	63
J468 Perform leak checks of AGM-86B/C engines	74	11	63
E163 Clean missile surfaces	72	11	60
<hr/>			
B86 Counsel trainees on training progress	1	32	-31
E262 Remove or replace solderless wire connections	5	36	-31
A16 Determine or establish work assignments or priorities	2	35	-33
A6 Conduct self-inspections or self-assessments	3	37	-34
A55 Inspect personnel for compliance with military standards	1	36	-35
E261 Remove or replace radio frequency interference (RFI) gaskets	1	37	-36
A8 Conduct supervisory performance feedback sessions	1	37	-36
A12 Counsel subordinates concerning personal matters	2	39	-37
A43 Evaluate personnel for compliance with performance standards	2	39	-37
A72 Supervise military personnel	1	41	-40

TABLE 13
REPRESENTATIVE TASKS PERFORMED BY DAFSC 2M071 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=194)
A59 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	82
A6 Conduct self-inspections or self-assessments	72
A8 Conduct supervisory performance feedback sessions	70
A72 Supervise military personnel	68
A12 Counsel subordinates concerning personal matters	68
A43 Evaluate personnel for compliance with performance standards	65
A16 Determine or establish work assignments or priorities	64
A5 Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	63
A75 Write performance reports or supervisory appraisals	62
A55 Inspect personnel for compliance with military standards	61
A77 Write recommendations for awards or decorations	61
A33 Establish performance standards for subordinates	59
A22 Develop or establish work schedules	58
A21 Develop or establish work methods or procedures	57
A56 Interpret policies, directives, or procedures for subordinates	55
A10 Conduct supervisory orientations for newly assigned personnel	55
A9 Conduct safety inspections of equipment or facilities	54
A44 Evaluate personnel for promotion, demotion, reclassification, or special awards	48
A68 Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	48
A41 Evaluate job-related suggestions	48
A70 Schedule work assignments or priorities	47
A14 Determine or establish logistics requirements, such as personnel, equipment, tools, parts, supplies, or workspace	46
A2 Assign personnel to work areas or duty positions	46
D142 Evaluate serviceability of equipment, tools, parts, or supplies	45
A46 Evaluate work schedules	44
A19 Develop self-inspection or self-assessment program checklists	43

Average number of tasks performed = 67

TABLE 14

**TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 2M051 AND DAFSC 2M071 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	DAFSC 2M051 (N=390)	DAFSC 2M071 (N=194)	DIFFERENCE
E204 Perform fault isolations	46	18	28
E261 Remove or replace radio frequency interference (RFI) gaskets	36	9	27
E252 Remove or replace gaskets, seals, or packing	32	7	25
E174 Inspect hoisting units, slings, or adapters	38	15	23
E155 Apply fillers, paints, sealers, or adhesives	32	10	22
E254 Remove or replace indicator lights	33	11	22
E262 Remove or replace solderless wire connections	36	14	22
E158 Clean electronic equipment	36	14	22
E247 Remove or replace electrical cables or connectors	35	13	22
E201 Perform corrosion control procedures	33	11	22
<hr/>			
A67 Review drafts of directives, such as policy directives, instructions, or manuals	8	42	-34
A10 Conduct supervisory orientations for newly assigned personnel	21	55	-34
A75 Write performance reports or supervisory appraisals	28	62	-34
A74 Write job or position descriptions	9	44	-35
A6 Conduct self-inspections or self-assessments	37	72	-35
A56 Interpret policies, directives, or procedures for subordinates	19	55	-36
A77 Write recommendations for awards or decorations	25	61	-36
A68 Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	10	48	-38
A59 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	43	82	-39
A5 Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	2	63	-43

Summary

Progression in this career ladder follows a pattern of diverse technical job focus through the 3-, 5-, and 7-skill levels, with a broadening into supervision occurring at the 7-skill level. Emphasis is seen in performing primarily general missile maintenance at both "A" and "B" shred 3-skill levels, with more diversity in training, and management and supervision activities at the 5-skill level. Senior personnel at the 7-skill level are performing primarily supervisory duties. This progression is easily seen in Table 6 and serves the career ladder by providing a regular progression from the 3- to 7-skill level.

TRAINING ANALYSIS

Occupational survey data are sources of information that can be useful in the development and revision of relevant training programs for entry-level personnel. Factors used to evaluate entry-level AFSC 2M0X1A/B Missile and Space Systems Electronic Maintenance training include jobs being performed by first-enlistment (1-48 months TAFMS) personnel, overall distribution of first-enlistment personnel across career ladder jobs, percent first-job (1-24 months TAFMS), first-enlistment members spent performing specific tasks, ratings of how much TE tasks should receive in formal training, and ratings of relative TD.

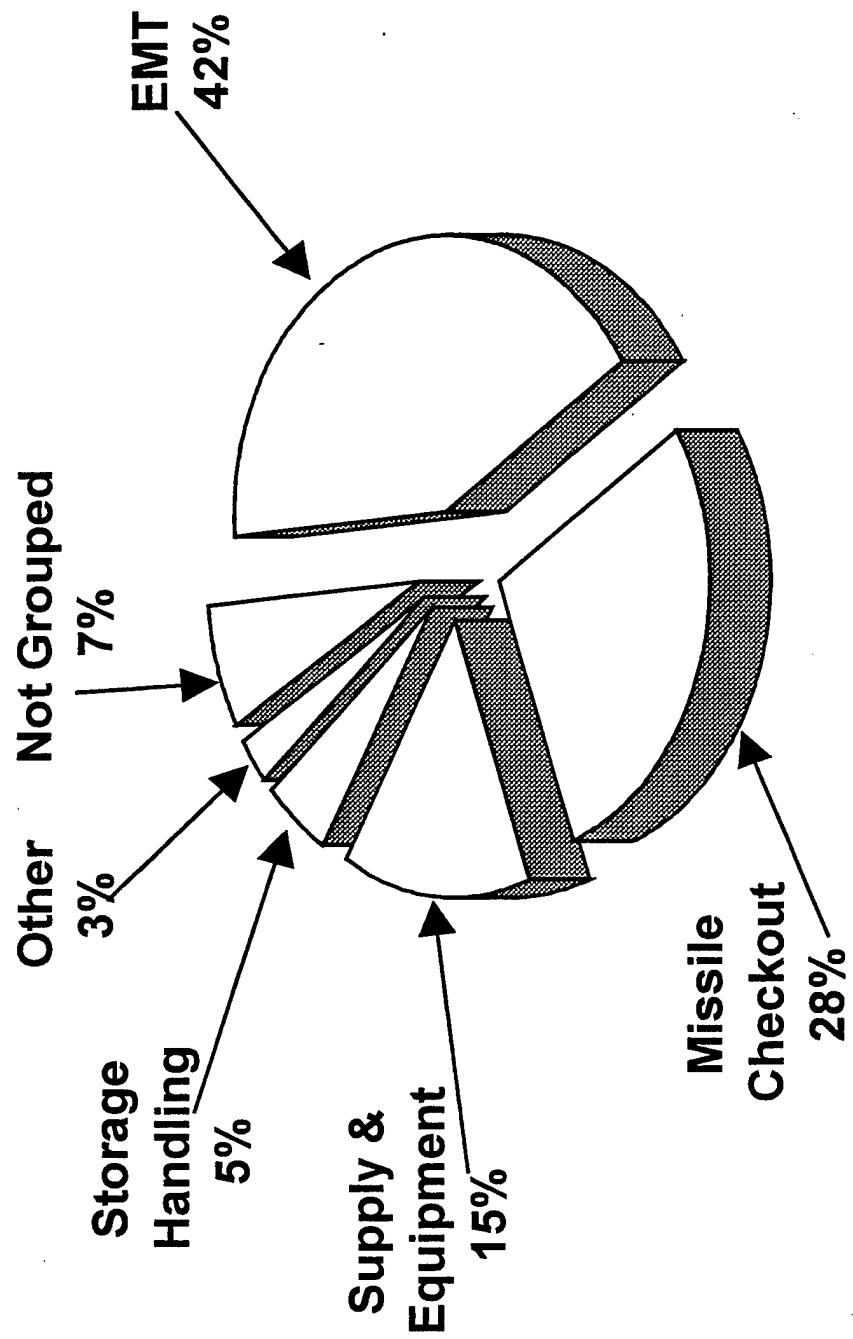
First-Enlistment Personnel

In this study, there are 224 AFSC 2M0X1A/B members in their first enlistment (1-48 months TAFMS), representing 27 percent of all surveyed AFSC 2M0X1A/B personnel. These personnel are primarily in the EMT and Missile Checkout jobs (see Figure 2). Table 15 and 16 shows the relative percent of time spent across duties by first-enlistment AFSC 2M0X1 A- and B-shred members respectively. Representative tasks performed by the A-shred first-enlistment group are listed in Table 17. Examples of these tasks include launch facility maintenance, storing and handling of equipment, and performing safety inspections. Representative tasks performed by B-shred first-enlistment members are shown in Table 18. They perform tasks to include cruise missile checkouts and inspections, storage and handling, and general missile maintenance.

Training Emphasis (TE) and Task Difficulty (TD) Data

TE and TD data are secondary task factors that can help training development personnel decide which tasks to emphasize for entry-level training. These ratings, based on the judgments of senior career ladder NCOs, provide a rank-ordering of those tasks considered important for airmen with 1-48 months TAFMS (TE) and a measure of the relative difficulty of those tasks (TD). When combined with data on the percentages of entry-level personnel performing tasks, comparisons can be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors (TE and TD), accompanied by moderate to high percentages for performance, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages

FIGURE 2
AFSC 2M0X1A/B FIRST ENLISTMENT PERSONNEL JOBS



Other: Instructor Supervisor, Supervision, Munitions Controller, VACE,

TABLE 15
RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES
BY FIRST-ENLISTMENT AFSC 2M0X1A PERSONNEL

DUTIES	PERCENT TIME SPENT
A PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	4
B PERFORMING TRAINING ACTIVITIES	*
C PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER SYSTEM ACTIVITIES	2
D PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	19
E PERFORMING GENERAL MISSILE MAINTENANCE ACTIVITIES	35
F PERFORMING LAUNCH FACILITY (LF) MAINTENANCE ACTIVITIES	30
G PERFORMING MISSILE ALERT FACILITY (MAF) MAINTENANCE ACTIVITIES	9
H PERFORMING OPERATIONAL TEST LAUNCH ACTIVITIES	*
I PERFORMING ICBM ELECTRONIC LABORATORY (ELAB) ACTIVITIES	*
J MAINTAINING CRUISE MISSILES	0
K MAINTAINING MISSILE ELECTRIC OR ELECTRONIC SUPPORT EQUIPMENT	0
L MAINTAINING AIRCRAFT PYLONS OR ROTARY LAUNCHERS	0
M PERFORMING SPACELIFT ACTIVITIES	0
N PERFORMING RESEARCH AND DEVELOPMENT ACTIVITIES	*

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 16

RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES
BY FIRST-ENLISTMENT AFSC 2M0X1B PERSONNEL

DUTIES	PERCENT TIME SPENT
A PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	1
B PERFORMING TRAINING ACTIVITIES	*
C PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER SYSTEM ACTIVITIES	3
D PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	4
E PERFORMING GENERAL MISSILE MAINTENANCE ACTIVITIES	42
F PERFORMING LAUNCH FACILITY (LF) MAINTENANCE ACTIVITIES	*
G PERFORMING MISSILE ALERT FACILITY (MAF) MAINTENANCE ACTIVITIES	0
H PERFORMING OPERATIONAL TEST LAUNCH ACTIVITIES	0
I PERFORMING ICBM ELECTRONIC LABORATORY (ELAB) ACTIVITIES	*
J MAINTAINING CRUISE MISSILES	39
K MAINTAINING MISSILE ELECTRIC OR ELECTRONIC SUPPORT EQUIPMENT	2
L MAINTAINING AIRCRAFT PYLONS OR ROTARY LAUNCHERS	7
M PERFORMING SPACELIFT ACTIVITIES	0
N PERFORMING RESEARCH AND DEVELOPMENT ACTIVITIES	0

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 17

REPRESENTATIVE TASKS PERFORMED BY FIRST-ENLISTMENT AFSC 2M0X1A PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=139)
F292	70
E184	69
Inspect or install safety devices, such as safety barriers, lanyards, or personnel harnesses	
F275	66
Adjust, repair, replace, service, or troubleshoot electromechanical linear actuators (EMLAs)	
E195	65
Perform checkouts of batteries	
E210	63
Perform missile electronic encryption device (MEED) procedures	
F276	63
Align, inspect, or repair telescoping ladders	
F287	60
Checkout, troubleshoot, or replace LF storage batteries	
F295	60
Isolate LF faults	
F281	58
Checkout or troubleshoot improved minuteman physical security systems (IMPSSs)	
F297	58
Perform aerospace vehicle equipment (AVE) startups, other than WS-118 AVE startups	
E204	58
Perform fault isolations	
E174	56
Inspect hoisting units, slings, or adapters	
E172	55
Inspect equipment on receipt	
E160	55
Clean launch facilities (LFs)	
E175	51
Inspect maintenance vehicle hoists	
D142	50
Evaluate serviceability of equipment, tools, parts, or supplies	
D147	45
Inventory equipment, tools, parts, or supplies	
D153	42
Pick up or deliver equipment, tools, parts, or supplies	
E181	41
Inspect safety devices, such as pins, chocks, or flags	
E156	37
Assemble or configure maintenance team vehicles, equipment, or materials	
D143	36
Identify and report equipment or supply problems	
D154	35
Store equipment, tools, parts, or supplies	
D148	29
Issue or log turn-ins of equipment, tools, parts, or supplies	
A9	23
Conduct safety inspections of equipment or facilities	

Average number of tasks performed = 68

TABLE 18

REPRESENTATIVE TASKS PERFORMED BY FIRST-ENLISTMENT AFSC 2M0X1B PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=77)
J464 Perform cruise missile level 1 checkouts	84
J477 Remove or replace cruise missile engines	84
J455 Deploy or stow cruise missile aerosurfaces	83
J483 Remove or replace desiccant assemblies	81
J459 Perform AGM-86B/C inertial navigation element (INE) autocalibrations (ACALs)	81
J454 Crate or uncrate missiles	79
J460 Perform cruise missile ECS leak checks	79
J497 Remove or replace INEs	78
E174 Inspect hoisting units, slings, or adapters	77
J468 Perform leak checks of AGM-86B/C engines	75
E201 Perform corrosion control procedures	74
J463 Perform cruise missile fuel primings	74
E163 Clean missile surfaces	73
E177 Inspect missile handling units	69
E155 Apply fillers, paints, sealers, or adhesives	69
E179 Inspect missile test stands, such as MSU-179/E	69
E162 Clean missile support equipment	68
L593 Perform empty launcher checkouts	66
J503 Remove or replace rotary or separation switches	62
J492 Remove or replace flight data transmitters	61
E181 Inspect safety devices, such as pins, chocks, or flags	61
J456 Fuel or defuel cruise missiles	60
J457 Perform AGM-129A missile leak tests	60
J510 Repair desiccant assemblies	58
L596 Perform loaded cruise missile pylon or CSRL checkouts	58
E272 Transport missiles on other than pylons or launchers	57
E269 Safetywire equipment	57
E203 Perform escort duties	57
E187 Open or close alarmed facilities	53
E238 Remove or replace access covers, plates, panels, or raceway covers	52
D147 Inventory equipment, tools, parts, or supplies	42
E206 Perform launcher or pylon transfer procedures	27

Average number of tasks performed = 57

for performance, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for new personnel. These decisions must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To assist training development personnel, AFOMS developed a computer program that uses these task factors and the percentage of 1-48 months TAFMS personnel performing tasks to produce Automated Training Indicators (ATI). ATIs correspond to training decisions listed and defined in the Training Decision Logic Table found in Attachment 2, AETC Instruction 36-2601. ATIs allow training developers to quickly focus attention on those tasks which are most likely to qualify for resident course consideration.

Tasks having the highest TE ratings for AFSC 2M0X1 personnel with 1-48 months TAFMS are listed in Table 19. Included for each task are the percentages of 1-48 months TAFMS (1ST ENL) personnel performing each task and the TD ratings, regardless of shred. As illustrated in the table, tasks with the highest TE ratings deal with missile and launch facility maintenance. These tasks are performed by high percentages of 1-48 months TAFMS personnel.

Table 20 lists representative tasks having high TD ratings. The percentages of 1-48 months TAFMS, 5- and 7-skill level personnel performing, and TE ratings are also included for each task. Many of the tasks with the highest TD ratings involve highly technical tasks involving research and development and are not listed due to low percentages of personnel performing these tasks.

Various lists of tasks, accompanied by TE and TD ratings, are contained in the **TRAINING EXTRACT** package and should be reviewed in detail by operational school personnel. For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the **SURVEY METHODOLOGY** section of this report.

Specialty Training Standard (STS) Analysis

A comprehensive review of the AFSC 2M0X1A/B STS, dated June 1996, was made by comparing survey data to STS elements. To assist in the examination of the STS, technical school SMEs from the 532nd Training Squadron, Vandenberg AFB CA, matched JI tasks to appropriate sections and subsections of the STS. Elements with performance objectives were reviewed in terms of TE, TD, and percent members performing information, using the guidance provided in AETC Instruction 36-2601. STS paragraphs containing general knowledge information, subject-matter knowledge requirements, or supervisory responsibilities were not reviewed. Typically, STS elements matched to tasks which have sufficiently high TE and TD ratings and are performed by at least 20 percent of personnel in appropriate experience of skill-level groups (such as first-enlistment (1-48) months TAFMS, and 5- and 7-skill level groups) should be considered for inclusion in the STS. Likewise, elements matched to tasks with less than 20 percent performing in all of the groups should be considered for deletion from the STS.

TABLE 19
DAFSC 2M0X1A/B TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS	TNG EMP*	PERCENT MEMBERS PERFORMING					TSK DIFF**
		A 1ST JOB	A 1ST ENL	B 1ST JOB	B 1ST ENL		
E204 Perform fault isolations	3.86	54	58	54	55	5.85	
E184 Inspect or install safety devices, such as safety barriers, lanyards, or personnel harnesses	3.58	68	69	45	45	3.52	
E174 Inspect hoisting units, slings, or adapters	3.41	52	56	75	77	3.76	
F281 Checkout or troubleshoot improved minuteman physical security systems (IMPSSs)	3.36	49	58	75	77	5.12	
E202 Perform emergency shutdowns of test equipment	3.25	40	42	27	30	3.60	
F290 Checkout, troubleshoot, repair, or replace LF motor generators	3.17	44	54	0	0	5.41	
F292 Enter or exit LFs	3.17	65	70	0	0	3.93	
F300 Perform LF emergency procedures	3.17	61	64	1	1	4.22	
F295 Isolate LF faults	3.14	53	60	0	0	5.65	
F302 Perform normal missile shutdown procedures	3.14	56	61	4	5	4.13	
F293 Evacuate LFs for emergency war order (EWO) launch conditions	3.12	60	60	0	0	3.91	
F278 Change secondary door lock combinations	3.11	58	65	0	1	3.96	
F296 Load or download missile computer memories	3.11	42	48	4	4	4.67	
E185 Inspect or operate emergency breathing apparatus	3.09	57	58	18	18	4.30	
D142 Evaluate serviceability of equipment, tools, parts, or supplies	3.09	57	50	31	34	4.25	
F291 Checkout, troubleshoot, repair, or service MGS cooling systems	3.08	37	42	0	0	5.31	
E261 Remove or replace radio frequency interference (RFI) gaskets	3.08	54	58	0	0	4.50	
E172 Inspect equipment on receipt	3.08	57	55	45	49	3.85	
D147 Inventory equipment, tools, parts, or supplies	3.05	53	45	39	42	3.58	
A9 Conduct safety inspections of equipment or facilities	3.05	27	23	20	21	4.50	

* Mean TE Rating is .9, and Standard Deviation is .82 (High TE = 1.72)

** Mean TD Rating is 5.00, and Standard Deviation is 1.00

TABLE 20

DAFSC 2M0X1A/B TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS	PERCENT MEMBERS PERFORMING							
	TK DIFF*	1ST JOB	1ST ENL	1ST JOB	B ENL	DAFSC 2M051	DAFSC 2M071	TNG EMP
H357 Determine missile flight malfunctions using telemetry data	6.92	0	0	0	0	0	4	25
F283 Checkout, troubleshoot, or repair LF distribution boxes	6.13	54	58	0	0	21	11	2.89
J456 Fuel or defuel cruise missiles	5.93	0	0	56	60	10	3	1.22
F303 Perform power fault to ground checkouts	5.89	53	58	0	1	20	9	3.00
F316 Replace secondary doors	5.87	38	42	0	0	17	5	2.16
E204 Perform fault isolations	5.85	54	58	54	55	46	18	3.86
J482 Remove or replace cruise missile wings	5.76	0	0	17	16	3	0	.61
F295 Isolate LF faults	5.65	53	60	0	0	21	11	3.14
E198 Perform checkouts of power signal distribution units (PSDUs)	5.62	48	53	1	1	24	11	2.39
F286 Checkout, troubleshoot, or replace LF electrical filter assemblies (EEFAs) or electronic surge arresters (ESAs)	5.57	52	60	0	0	21	9	2.83
G336 Checkout, troubleshoot, repair, replace, or service MAF motor generators	5.55	44	50	0	0	20	7	2.56
G328 Checkout rapid execution and combat targeting (REACT) consoles	5.55	35	39	0	1	17	6	2.64
F298 Perform forced entry procedures	5.54	45	51	0	0	19	5	2.39
J469 Remove or replace AGM-129A aft avionics units	5.53	0	0	30	29	5	1	.94
E268 Replace or repair PSDUs	5.47	42	44	0	0	21	9	2.00
F290 Checkout, troubleshoot, repair, or replace LF motor generators	5.41	44	54	0	0	18	9	3.17
J478 Remove or replace cruise missile fins	5.40	0	0	41	39	8	3	.91
E216 Perform simulated electronic launch minuteman (SELM) test functions or configurations	5.39	19	22	1	1	15	10	1.42
J477 Remove or replace cruise missile engines	5.38	0	0	83	84	12	4	1.34
A77 Write recommendations for awards/decorations	5.37	2	1	0	0	25	61	1.36
A42 Evaluate logistics requirements, such as personnel, equipment, tools, parts, supplies, or workspace	5.37	1	1	0	0	13	39	.89

* TD MEAN = 5.00; S.D. = 1.00

Using this standard approach, no 2M031A STS paragraphs and only 4 of the 2M031B STS paragraphs have matched tasks with less than 20 percent members performing when compared to the criterion groups mentioned above (see Table 21). Additionally, several of 2M051/2M071 (including 5 STS attachments) paragraphs were not supported by at least 20 percent members performing. Training personnel and SMEs should review these elements to determine if they warrant remaining in the STS.

Tasks not matched to any paragraph of the STS are listed at the end of the STS computer listing. Table 22 lists examples of 2M031A tasks and Table 23 lists 2M031B tasks which were performed by 20 percent or more of criterion groups, but not matched to any STS item. Most of these tasks are rated high in TE and TD and have high percent members performing. Training personnel and SMEs should review the tasks not referenced listing for possible inclusion in the STS.

Plan of Instruction (POI) Analysis

JI tasks were matched to related training objectives in two POIs for the entry level courses, with assistance from the 532nd Training Squadron SMEs. The method employed was similar to that of the STS percent members performing data for first-enlistment (1-48 months TAFMS) personnel, and TE and TD ratings. POI blocks, units of instruction, and criterion objectives were compared to the standard set forth in AETC Instruction 36-2601, dated 5 July 1996 (30 percent or more of the first-enlistment personnel performing tasks trained, along with sufficiently high TE and TD ratings on those tasks). In accordance with this guidance, tasks trained in the course not meeting these criteria should be considered for elimination from formal course training if not justified on some other acceptable basis.

The results of the review of those two POIs follow:

V3ABR2M031A-004, Missile and Space Systems Electronic Maintenance Apprentice (ICBM), dated 25 June 1997. There are 5 ICBM POI performance-coded learning objectives in this course not supported by survey data (see Table 24). Additionally, Table 25 displays examples of tasks not referenced to POI V3ABR2M031A-004. SMEs and training personnel should review these tasks and others rated high in TE, TD, and percent members performing for possible inclusion in the POI.

V3ABR2M031B-000, Missile and Space Systems Electronic Maintenance Apprentice (ALCM/ACM), dated 1 October 1996. Only one of the ALCM, CALCM, and ACM POI proficiency-coded objectives in this course is not supported by at least 30 percent of first-enlistment personnel (see Table 26). Training personnel and SMEs should review this objective for continued use in the POI. Some technical tasks performed by over 30 percent of first-enlistment personnel were not matched to the POI. A list of these tasks is listed in Table 27. Training personnel and SMEs should review these tasks to determine if these areas should be incorporated into the formal course.

TABLE 21

TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE
GROUP MEMBERS BUT NOT REFERENCED BY 2M031A STS

TASKS	PERCENT MEMBERS PERFORMING					
	TNG EMP	1ST JOB	1ST ENL	2M051 (N=390)	2M071 (N=197)	TSK DIF
E204 Perform fault isolations	3.86	54	58	46	18	5.85
F295 Isolate LF faults	3.14	53	60	21	11	5.65
F280 Checkout or repair programmer groups	2.78	54	60	20	9	4.44
F321 Restore LF power	2.62	48	54	18	6	4.42
F299 Perform LF command line checkouts	2.59	49	50	17	9	4.91
G329 Checkout or replace EFAs or ESAs	2.58	45	53	19	8	5.32
E195 Perform checkouts of batteries	2.50	61	65	29	11	4.31
E263 Remove or replace wires	2.45	41	50	33	14	4.21
E198 Perform checkouts of power signal distribution units (PSDUs)	2.39	48	53	24	11	5.62
F305 Perform secondary door alternate opening procedures	2.38	47	50	17	5	5.05
E174 Inspect hoisting units, slings, or adapters	3.41	52	56	38	15	3.76
E172 Inspect equipment on receipt	3.08	57	55	38	20	3.85
F315 Replace LF keying variables	2.44	48	55	21	4	3.50
E210 Perform missile electronic encryption device procedures	2.31	61	63	18	9	3.58
E175 Inspect maintenance vehicle hoists	2.30	47	51	21	7	3.69
E254 Remove or replace indicator lights	1.83	46	53	33	11	3.27

TD MEAN = 5.00; S.D. = 1.00
TE MEAN = .90; S.D. = .82

TABLE 22

2M031B STS ITEMS NOT SUPPORTED BY OSR DATA
(PERCENT MEMBERS PERFORMING)

2M031B STS REFERENCE/TASKS	3-SKILL LVL PROF CODE	TNG EMP	% MEMBERS PERFORMING				SKILL LVL TSK DIF
			B (N=77)	1ST (N=92)	SKILL LVL (N=390)	5- LVL (N=194)	
10.d.(1.) <i>Decoder receiver</i> L595 Perform launcher or pylon component level 3 checkouts	3c	1.39	17	17	12	3	4.76
10.d.(2). <i>Nuclear station logic unit</i> L595 Perform launcher or pylon component level 3 checkouts	3c	1.39	17	17	12	3	4.76
10.e.(2). <i>Decoder receiver</i> L604 Remove or replace launcher components	3c	.83	14	13	10	2	4.26
13.c. <i>Describe the operation of the disc cleaner/verifier</i> K591 Verify ESTS disc media using cleaner-verifier sets	A	.45	0	0	6	1	3.97

TD MEAN = 5.00; S.D. = 1.00
TE MEAN = .90; S.D. = .82

TABLE 23

TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE
GROUP MEMBERS BUT NOT REFERENCED BY 2M031B STS

TASKS	PERCENT MEMBERS PERFORMING					
	TNG EMP	1ST JOB	1ST ENL	2M051 (N=390)	2M071 (N=197)	TSK DIF
E204 Perform fault isolations	3.86	54	55	46	18	5.85
E168 Evaluate damage to missile surfaces	1.64	52	52	13	8	4.69
J462 Perform cruise missile erosion-resistant coating repairs	1.23	52	55	10	2	4.70
J466 Perform cruise missile radar absorbing material (RAM) repairs	1.14	61	61	10	3	4.52
J457 Perform AGM-129A missile leak tests	1.11	62	60	8	1	5.08
J467 Perform cruise missile receipt inspections	1.08	65	65	10	4	4.76
L592 Perform common strategic rotary launcher AGM-86B/C INE autocalibration checkouts	.97	52	52	9	4	4.09
J454 Crate or uncrate missiles	.95	82	79	11	3	4.24
J459 Perform AGM-86B/C inertial navigation element autocalibrations	.86	79	81	10	4	4.16
E207 Perform leak tests on engine leak detectors	.45	46	51	7	2	4.42
J465 Perform cruise missile level 2 checkouts	1.45	45	47	11	3	4.84
L599 Perform AGM-86B/C loaded pylon INE autocalibration checkouts	1.03	46	47	8	4	4.19
L598 Perform AGM-129A loaded pylon navigation set field calibrations	.81	34	31	7	2	4.42
E173 Inspect fuel system priming sets	.75	34	36	9	4	4.44
J485 Perform AGM-129A navigation set field calibrations	.64	48	45	6	2	4.45
E209 Perform missile conditioned-air leak checks	.31	35	38	5	1	4.41

TD MEAN = 5.00; S.D. = 1.00
TE MEAN = .90; S.D. = .82

TABLE 24

AFSC 2M0X1A POI ITEM NOT SUPPORTED BY OSR DATA
(PERCENT MEMBERS PERFORMING)

<u>POI OBJECTIVES/TASKS</u>	% MEMBERS PERFORMING					TSK <u>DIF</u>
	TNG <u>EMP</u>	B <u>ATI</u>	1ST <u>JOB</u>	1ST <u>ENL</u>		
<i>I.3.e Without reference, describe the Hazardous Communication Program by selecting the correct response with a minimum of 70% accuracy.</i>						
<i>III.2.d. Without reference, identify basic safety facts about hazardous waste by selecting the correct response with a minimum of 70% accuracy.</i>						
<i>III.2.e. Without reference, describe hazardous material responsibilities by selecting the correct response with a minimum of 70% accuracy.</i>						
<i>III.2.f. Without reference, identify basic facts about the hazardous material transportation requirements by selecting the correct response with a minimum of 70% accuracy.</i>						
<i>III.2.g. Without reference, identify basic facts about Polychlorinated Biphenyls by selecting the correct response with a minimum of 70% accuracy.</i>						
E205 Perform hazardous materials storage or disposal actions	2.78	11	22	29	4.75	

TD MEAN = 5.00; S.D. = 1.00

TE MEAN = .90; S.D. = .82

TABLE 25

TECHNICAL TASKS PERFORMED BY 30 PERCENT OR MORE
GROUP MEMBERS BUT NOT REFERENCED BY 2M031A POI (ICBM)

TASKS	PERCENT MEMBERS			PERCENT MEMBERS		
	TNG EMP	A ATI	1ST JOB	1ST ENL	1ST ENL	TASK DIF
E195 Perform checkouts of batteries	2.50	18	61	65	4.31	
E198 Perform checkouts of power signal distribution units (PSDUs)	2.39	18	48	53	5.62	
E204 Perform fault isolations	3.86	18	54	58	5.85	
E263 Remove or replace wires	2.45	18	41	50	4.21	
F280 Checkout or repair programmer groups	2.78	18	54	60	4.44	
F287 Checkout, troubleshoot, or replace LF storage batteries	3.02	18	54	60	4.86	
F295 Isolate LF faults	3.14	18	53	60	5.65	
F299 Perform LF command line checkouts	2.59	18	49	50	4.91	
F305 Perform secondary door alternate opening procedures	2.38	18	47	50	5.05	
F321 Restore LF power	2.62	18	48	54	4.42	
G329 Checkout or replace EFAs or ESAs	2.58	18	45	53	5.32	
E174 Inspect hoisting units, slings, or adapters	3.41	13	52	56	3.76	
E175 Inspect maintenance vehicle hoists	2.30	13	47	51	3.69	
E210 Perform missile electronic encryption device procedures	2.31	13	61	63	3.58	
E254 Remove or replace indicator lights	1.83	13	46	53	3.27	
F315 Replace LF keying variables	2.44	13	48	55	3.50	
G340 Remove or install MAF chairs	1.73	13	52	57	3.91	

TD = 5.00; S.D. = 1.00
TE = .90; S.D. = .82

TABLE 27

TECHNICAL TASKS PERFORMED BY 30 PERCENT OR MORE
GROUP MEMBERS BUT NOT REFERENCED BY 2M031B POI (ALCM/ACM)

POI OBJECTIVES/TASKS	% MEMBERS PERFORMING				TSK DIF
	TNG EMP	B ATI	1ST JOB	1ST ENL	
E204 Perform fault isolations	3.86	18	54	55	5.85
E168 Evaluate damage to missile surfaces	1.64	17	52	52	4.69
J462 Perform cruise missile erosion-resistant coating repairs	1.23	17	52	55	4.70
J466 Perform cruise missile radar absorbing material (RAM) repairs	1.14	17	61	61	4.52
J512 Rig AGM-86B/C elevons or fins	1.11	17	51	52	5.15
L592 Perform common strategic rotary launcher (CSRLL) AGM-86B/C INE autocalibration checkouts	.97	17	52	52	4.09
E207 Perform leak tests on engine leak detectors	.45	16	46	51	4.42
J459 Perform AGM-86B/C inertial navigation element (INE) autocalibrations	.86	16	79	81	4.16
J471 Remove or replace AGM-86B/C elevon actuator controllers	.92	15	38	40	4.21
J478 Remove or replace cruise missile fins	.91	15	41	39	5.40
J493 Remove or replace fuel pump motors	.91	15	51	49	4.25
L599 Perform AGM-86B/C loaded pylon INE autocalibration checkouts	1.03	15	46	47	4.19
E209 Perform missile conditioned-air leak checks	.31	14	35	38	4.41
J458 Perform AFB-129A navigation set field calibrations	.64	14	48	45	4.45

TD = 5.00; S.D. = 1.00
TE = .90; S.D. = .82

JOB SATISFACTION ANALYSIS

An examination of job satisfaction indicators can give career ladder managers a better understanding of factors that may affect the job performance of career ladder airmen. Therefore, the survey booklet included attitude questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions. The responses of the current survey sample were analyzed by making comparisons among TAFMS groups of the AFSC 2M0X1A/B career ladders and a comparative sample of personnel from other Mission Equipment Management Group AFSCs surveyed in 1996.

Table 28 compares first-enlistment (1-48 months TAFMS), second-enlistment (49-96 months TAFMS), and career (97+ months TAFMS) group data to corresponding enlistment groups from other Mission Equipment Management Group AFSCs surveyed in 1996. These data give a relative measure of how the job satisfaction of AFSC 2M0X1A/B personnel compares with similar Air Force specialties. Missile and Space Systems Electronic Maintenance personnel reported slightly lower job satisfaction figures than members of the comparative sample.

The first-enlistment, second-enlistment, and career groups rated lower job satisfaction in all areas except 'expressed job interest' for 97+ months TAFMS personnel. When comparing all three enlistment groups, the first-enlistment group members rated all job satisfaction areas the lowest, except for 'perceived use of training'. The opposite job satisfaction ratings occur in the career group with 'perceived use of training' the lowest for all three groups. Reenlistment intentions increased from first-enlistment personnel with the highest probabilities of reenlistment in the career group. The percentage of negative responses in these comparisons reflect a career ladder where personnel appear to be moderately unsatisfied with their jobs.

Job satisfaction data for identified job groups and clusters are provided in Table 29. Members across the identified cluster and job groups provided varied job satisfaction responses. Members in the ELAB Job, Quality Assurance and Evaluation Job, Maintenance Scheduling Job, Maintenance Controller Cluster and Instructor Cluster reported the highest percentages finding their jobs interesting. Members in these groups also indicated their perceived utilization of talents, training, and sense of accomplishment gained from the job as higher than other specialty jobs and clusters. Across all specialty jobs, the perceived utilization of talents and training are positive in comparison to the remaining job satisfaction indicators.

TABLE 28

JOB SATISFACTION INDICATORS FOR AFSC 2M0X1 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	AFSC 2M0X1 (N=224)	COMP SAMPLE (N=4,506)	AFSC 2M0X1 (N=181)	COMP SAMPLE (N=3,339)	AFSC 2M0X1 (N=412)	COMP SAMPLE (N=9,548)
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	60	75	65	73	76	70
SO-SO	25	16	17	16	16	16
DULL	14	9	17	11	8	14
<u>PERCEIVED USE OF TALENTS:</u>						
FAIRLY WELL TO PERFECTLY	65	83	73	83	83	85
NONE TO VERY LITTLE	35	17	27	17	17	15
<u>PERCEIVED USE OF TRAINING:</u>						
FAIRLY WELL TO PERFECT	78	89	76	84	73	82
NONE TO VERY LITTLE	21	11	24	16	27	18
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>						
SATISFIED	63	73	67	72	72	74
NEUTRAL	21	14	14	13	12	11
DISSATISFIED	16	13	19	15	16	15
<u>REENLISTMENT INTENTIONS:</u>						
YES OR PROBABLY YES	56	63	70	73	78	78
NO OR PROBABLY NO	43	36	30	56	8	6
WILL RETIRE	0	1	0	1	13	15

NOTE: Comparative data are from the Mission Equipment Management AFSCs surveyed in 1996

TABLE 29

JOB SATISFACTION INDICATORS FOR AFSC 2M0X1A/B JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	EMT JOB (N=190)	ELAB JOB (N=41)	VACE JOB (N=34)
<u>EXPRESSED JOB INTEREST:</u>			
INTERESTING	74	83	76
SO-SO	18	12	15
DULL	7	2	9
<u>PERCEIVED USE OF TALENTS:</u>			
FAIRLY WELL TO PERFECT	79	91	74
NONE TO VERY LITTLE	21	9	26
<u>PERCEIVED USE OF TRAINING:</u>			
FAIRLY WELL TO PERFECT	93	100	80
NONE TO VERY LITTLE	7	0	20
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>			
SATISFIED	72	78	79
NEUTRAL	17	17	6
DISSATISFIED	11	5	15
<u>REENLISTMENT INTENTIONS:</u>			
YES OR PROBABLY YES	67	88	82
NO OR PROBABLY NO	32	5	15
WILL RETIRE	1	7	3

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 29 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 2M0X1A/B JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	STORAGE & HANDLING JOB (N=11)	MISSILE CHECKOUT JOB (N=120)	SUPPLY & EQUIPMENT CLUSTER (N=50)
<u>EXPRESSED JOB INTEREST:</u>			
INTERESTING	45	48	48
SO-SO	27	33	28
DULL	27	18	24
<u>PERCEIVED USE OF TALENTS:</u>			
FAIRLY WELL TO PERFECT	45	67	52
NONE TO VERY LITTLE	55	33	48
<u>PERCEIVED USE OF TRAINING:</u>			
FAIRLY WELL TO PERFECT	45	84	38
NONE TO VERY LITTLE	55	16	62
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>			
SATISFIED	55	54	54
NEUTRAL	27	17	26
DISSATISFIED	18	29	20
<u>REENLISTMENT INTENTIONS:</u>			
YES OR PROBABLY YES	64	69	54
NO OR PROBABLY NO	36	28	42
WILL RETIRE	0	3	4

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 29 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 2M0X1A/B JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	MUNITIONS CONTROLLER CLUSTER (N=24)	SUPERVISION CLUSTER (N=143)	QUALITY ASSURANCE JOB (N=6)
<u>EXPRESSED JOB INTEREST:</u>			
INTERESTING	67	77	100
SO-SO	21	15	0
DULL	13	8	0
<u>PERCEIVED USE OF TALENTS:</u>			
FAIRLY WELL TO PERFECT	71	88	100
NONE TO VERY LITTLE	29	12	0
<u>PERCEIVED USE OF TRAINING:</u>			
FAIRLY WELL TO PERFECT	62	71	88
NONE TO VERY LITTLE	64	29	17
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>			
SATISFIED	71	75	67
NEUTRAL	8	10	33
DISSATISFIED	21	15	0
<u>REENLISTMENT INTENTIONS:</u>			
YES OR PROBABLY YES	67	69	100
NO OR PROBABLY NO	25	11	0
WILL RETIRE	8	20	0

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 29 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 2M0X1A/B JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	MAINT SCHEDULING JOB (N=5)	INSTRUCTOR CLUSTER (N=29)	MAINT CONTROLLER CLUSTER (N=16)
<u>EXPRESSED JOB INTEREST:</u>			
INTERESTING	100	86	81
SO-SO	0	0	12
DULL	0	14	8
<u>PERCEIVED USE OF TALENTS:</u>			
FAIRLY WELL TO PERFECT	100	89	62
NONE TO VERY LITTLE	0	10	38
<u>PERCEIVED USE OF TRAINING:</u>			
FAIRLY WELL TO PERFECT	60	76	77
NONE TO VERY LITTLE	40	24	23
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>			
SATISFIED	100	86	58
NEUTRAL	0	0	12
DISSATISFIED	0	14	31
<u>REENLISTMENT INTENTIONS:</u>			
YES OR PROBABLY YES	100	66	96
NO OR PROBABLY NO	0	31	0
WILL RETIRE	0	3	4

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

IMPLICATIONS

As explained in the **INTRODUCTION**, this survey was conducted primarily to ensure current data for use in evaluating the effectiveness of training within the Missile and Space Systems Electronic Maintenance specialties. "A" and "B" shred data compiled from this survey show current members follow a typical career progression pattern. The present classification structure, as described in AFMAN 36-2108 *Specialty Descriptions*, accurately portrays the "A" and "B" shred jobs in this study.

Analysis of career ladder documents indicates a well supported CFETP; however, a review of both the STSs and POIs should be conducted by the training manager and operational training SMEs to ensure that new courses coming on line are appropriate for the career field.

Job satisfaction data indicate AFSC 2M0X1A/B personnel are slightly less satisfied with their jobs than the comparative sample in most areas. However, over half of the surveyed sample indicate reenlistment intentions. No serious job satisfaction problems appear to exist in the 2M0X1A/B members.

The findings of this OSR come directly from survey data collected from AFSC 2M0X1A/B personnel world wide. The data extracts provided to functional and training managers should be used when training or utilization decisions are made.

APPENDIX A
REPRESENTATIVE TASKS PERFORMED BY
MEMBERS OF CAREER LADDER JOBS

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TABLE A1
ELECTROMECHANICAL TECHNICIAN (EMT) JOB
(STG113, N=190)

TASKS	PERCENT MEMBERS PERFORMING
F292 Enter or exit LFs	98
F275 Adjust, repair, replace, service, or troubleshoot electromechanical linear actuators (EMLAs)	94
F287 Checkout, troubleshoot, or replace LF storage batteries	93
F285 Checkout, troubleshoot, or repair LF power supply groups or sets	93
F300 Perform LF emergency procedures	93
F286 Checkout, troubleshoot, or replace LF electrical filter assemblies (EFAs) or electronic surge arresters (ESAs)	92
F295 Isolate LF faults	92
F276 Align, inspect, or repair telescoping ladders	92
E195 Perform checkouts of batteries	91
F278 Change secondary door lock combinations	91
F280 Checkout or repair programmer groups	91
F284 Checkout, troubleshoot, or repair LF interconnecting boxes	91
G331 Checkout, troubleshoot, isolate, or replace MAF storage batteries	91
F283 Checkout, troubleshoot, or repair LF distribution boxes	91
F311 Repair security pit vault doors	90
F289 Checkout, troubleshoot, repair, or replace LF battery charger sets	90
F281 Checkout or troubleshoot improved minuteman physical security systems (IMPSSs)	88
F302 Perform normal missile shutdown procedures	88
F303 Perform power fault to ground checkouts	88
F324 Troubleshoot secondary doors	87
G352 Unload and shutdown MAF motor generators	87
E204 Perform fault isolations	87

TABLE A2
ELECTRONIC LABORATORY (ELAB) TECHNICIAN JOB
(STG114, N=41)

TASKS	PERCENT MEMBERS PERFORMING
I408 Checkout, troubleshoot, or repair equipment using AN/GSM-315 (E-35)	100
I403 Checkout, troubleshoot, or repair AN/GSM-315 automatic test stations (E-35)	98
I409 Checkout, troubleshoot, or repair equipment using AN/GSM-82	98
E231 Remove or install integrated circuit cards or printed circuit card assemblies	95
I453 Strap or adjust electronic equipment drawers	95
I436 Inspect AN/GSM-315 automatic test stations (E-35)	95
E218 Perform soldering	95
E262 Remove or replace solderless wire connections	95
E263 Remove or replace wires	95
I404 Checkout, troubleshoot, or repair AN/GSM-82 electronic facility base maintenance test equipment	95
E158 Clean electronic equipment	93
E264 Repair electrical cables or connectors	93
E233 Remove or install patchboards or integrated test adapters (ITAs)	90
E260 Remove or replace printed circuit card assemblies, other than electronic system test set (ESTS) printed circuit card assemblies	90
I391 Calibrate automatic test stations	90
I441 Inspect AN/GSM-85 or AN/GSM-94 connector adapter test sets	90
E254 Remove or replace indicator lights	88
I439 Inspect MGSS	85
E159 Clean electronic test equipment	85
E234 Remove or install secure data units (SDUs) in electronic equipment	85
I388 Align UHF radio receiver components	83
I438 Inspect HCVE	83

TABLE A3
VERIFICATION AND CHECKOUT EQUIPMENT (VACE) JOB
(STG124, N=34)

TASKS	PERCENT MEMBERS PERFORMING
K537 Perform fault isolations on ESTSs	97
K534 Perform ESTS operational assurance tests	97
K531 Perform ESTS ACALs	97
K532 Perform ESTS calibration certification tests	97
K551 Perform periodic inspections on interconnecting or adapter groups	97
K576 Remove or replace ESTS components	97
K550 Perform periodic inspections on ESTSs	94
K588 Replace or service ESTS air filters	91
K538 Perform fault isolations on interconnecting or adapter groups	91
K533 Perform ESTS confidence tests	91
K529 Functionally test CCUs	91
K548 Perform periodic inspections on CCUs	91
E264 Repair electrical cables or connectors	88
E231 Remove or install integrated circuit cards or printed circuit card assemblies	88
E260 Remove or replace printed circuit card assemblies, other than electronic system test set (ESTS) printed circuit card assemblies	88
E158 Clean electronic equipment	88
K514 Align ESTS patchboard receiver contacts	88
E247 Remove or replace electrical cables or connectors	85
E159 Clean electronic test equipment	85
K520 Calibrate cooling control units (CCUs)	85
K517 Calibrate airflow cooling monitor units	85
K583 Remove or replace interconnecting or adapter group components	85
E262 Remove or replace solderless wire connections	85
K580 Remove or replace ESTS noncommercial drawer assembly subcomponents	85
E233 Remove or install patchboards or integrated test adapters (ITAs)	82

TABLE A4
STORAGE AND HANDLING JOB
(STG255, N=11)

TASKS	PERCENT MEMBERS PERFORMING
J454 Crate or uncrate missiles	100
E206 Perform launcher or pylon transfer procedures	100
E162 Clean missile support equipment	100
E191 Paint or stencil identifiers or instructions on equipment or weapons	100
E177 Inspect missile handling units	82
E201 Perform corrosion control procedures	82
E174 Inspect hoisting units, slings, or adapters	82
E203 Perform escort duties	82
E272 Transport missiles on other than pylons or launchers	73
E187 Open or close alarmed facilities	73
E181 Inspect safety devices, such as pins, chocks, or flags	73
E213 Perform operator maintenance on vehicles	64
D153 Pick up or deliver equipment, tools, parts, or supplies	55
E192 Perform area defense guard duties	55
E205 Perform hazardous materials storage or disposal actions	45
D147 Inventory equipment, tools, parts, or supplies	45
D142 Evaluate serviceability of equipment, tools, parts, or supplies	45
E211 Perform munitions convoy duties	45
E220 Perform tow inspections on weapons systems	36
E184 Inspect or install safety devices, such as safety barriers, lanyards, or personnel harnesses	36
D154 Store equipment, tools, parts, or supplies	36
A59 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	36
E185 Inspect or operate emergency breathing apparatus	36
A9 Conduct safety inspections of equipment or facilities	27
D151 Maintain documentation on items requiring periodic inspections	27

TABLE A5
MISSILE CHECKOUT JOB
(STG084, N=120)

TASKS	PERCENT MEMBERS PERFORMING
J464 Perform cruise missile level 1 checkouts	100
J477 Remove or replace cruise missile engines	100
J455 Deploy or stow cruise missile aerosurfaces	98
J459 Perform AGM-86B/C inertial navigation element (INE) autocalibrations (ACALs)	98
J460 Perform cruise missile ECS leak checks	97
J497 Remove or replace INEs	96
J468 Perform leak checks of AGM-86B/C engines	94
J483 Remove or replace desiccant assemblies	93
J463 Perform cruise missile fuel primings	93
E163 Clean missile surfaces	89
E179 Inspect missile test stands, such as MSU-179/E	88
L593 Perform empty launcher checkouts	88
L594 Perform empty pylon checkouts	87
J467 Perform cruise missile receipt inspections	87
E174 Inspect hoisting units, slings, or adapters	84
E155 Apply fillers, paints, sealers, or adhesives	84
J492 Remove or replace flight data transmitters	84
J454 Crate or uncrate missiles	83
J456 Fuel or defuel cruise missiles	83
L596 Perform loaded cruise missile pylon or CSRL checkouts	81
J503 Remove or replace rotary or separation switches	81
J466 Perform cruise missile radar absorbing material (RAM) repairs	81
E201 Perform corrosion control procedures	79
E177 Inspect missile handling units	78
L592 Perform common strategic rotary launcher (CSRL) AGM-86B/C INE autocalibration checkouts	77
J462 Perform cruise missile erosion-resistant coating repairs	77
J510 Repair desiccant assemblies	75
E168 Evaluate damage to missile surfaces	74
J512 Rig AGM-86B/C elevons or fins	73

TABLE A6
SUPPLY AND EQUIPMENT CLUSTER
(STG101, N=50)

TASKS	PERCENT MEMBERS PERFORMING
D142 Evaluate serviceability of equipment, tools, parts, or supplies	98
D154 Store equipment, tools, parts, or supplies	88
D147 Inventory equipment, tools, parts, or supplies	88
D148 Issue or log turn-ins of equipment, tools, parts, or supplies	86
D153 Pick up or deliver equipment, tools, parts, or supplies	76
D143 Identify and report equipment or supply problems	68
D149 Maintain benchstock parts or equipment levels	46
D150 Maintain precision measurement equipment (PME) calibration schedules	40
D151 Maintain documentation on items requiring periodic inspections	40
D140 Coordinate maintenance of equipment with appropriate agencies	40
A9 Conduct safety inspections of equipment or facilities	36
D146 Initiate requisitions for equipment, tools, parts, or supplies	34
D144 Initiate documentation to turn in excess or surplus property	34
D152 Maintain organizational equipment or supply records, such as custodian authorization/custody receipt listings (CA/CRLs)	30
D139 Coordinate supply-related matters with appropriate agencies	30
E156 Assemble or configure maintenance team vehicles, equipment, or materials	26
E184 Inspect or install safety devices, such as safety barriers, lanyards, or personnel harnesses	26
E172 Inspect equipment on receipt	24
E181 Inspect safety devices, such as pins, chocks, or flags	22
D141 Develop equipment checklists	20

TABLE A7
MUNITIONS CONTROLLER CLUSTER
(STG098, N=24)

TASKS	PERCENT MEMBERS PERFORMING
C108 Access and maintain safes	100
C109 Annotate security forms for facilities or security containers	96
C124 Inventory classified materials	88
C113 Destroy classified materials	83
C137 Safeguard classified materials	75
C110 Compile data for records, reports, logs, or trend analyses	71
C116 Identify and report suspected security compromises	63
C132 Maintain or update status indicators, such as boards, graphs, or charts	58
C131 Maintain accountability records for classified materials or documents	58
C121 Initiate or maintain standby rosters or workcenter pyramid recall rosters	58
C111 Complete accident or incident reports	54
A16 Determine or establish work assignments or priorities	50
C117 Initiate classified reports, messages, or documents	42
A59 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	42
C125 Maintain administrative files	38
C134 Prepare administrative or classified materials for mailing, transporting, or issue	38
D140 Coordinate maintenance of equipment with appropriate agencies	38
A72 Supervise military personnel	38
D139 Coordinate supply-related matters with appropriate agencies	29
C136 Review technical order changes	29
A5 Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	29
D143 Identify and report equipment or supply problems	29

TABLE A8
SUPERVISOR CLUSTER
(GP035, N=148)

TASKS	PERCENT MEMBERS PERFORMING
A59 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops other than conducting	88
A72 Supervise military personnel	86
A8 Conduct supervisory performance feedback sessions	85
A43 Evaluate personnel for compliance with performance standards	84
A12 Counsel subordinates concerning personal matters	83
A6 Conduct self-inspections or self-assessments	80
A75 Write performance reports or supervisory appraisals	78
A55 Inspect personnel for compliance with military standards	76
A77 Write recommendations for awards or decorations	76
A33 Establish performance standards for subordinates	75
A22 Develop or establish work schedules	74
A21 Develop or establish work methods or procedures	69
A10 Conduct supervisory orientations for newly assigned personnel	69
A56 Interpret policies, directives, or procedures for subordinates	67
A5 Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	66
A68 Schedule personnel for temporary duty (TDY)	60
A70 Schedule work assignments or priorities	59
A44 Evaluate personnel for promotion, demotion, reclassification, or special awards	58
A41 Evaluate job-related suggestions	58
A9 Conduct safety inspections of equipment or facilities	57
A46 Evaluate work schedules	57

TABLE A9
QUALITY ASSURANCE AND EVALUATION JOB
(STG093, N=6)

TASKS	PERCENT MEMBERS PERFORMING
D142 Evaluate serviceability of equipment, tools, parts, or supplies	100
B94 Evaluate training methods or techniques of instructors	100
C136 Review technical order changes	83
A49 Evaluate maintenance or utilization of equipment, tools, parts, supplies, or workspace	83
A73 Write inspection reports	83
A59 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	83
A39 Evaluate job hazards or compliance with Air Force Occupational Safety and Health (AFOSH) Program	83
A41 Evaluate job-related suggestions	83
A43 Evaluate personnel for compliance with performance standards	83
B96 Evaluate effectiveness of training programs, plans, or procedures	83
A9 Conduct safety inspections of equipment or facilities	83
E174 Inspect hoisting units, slings, or adapters	83
E184 Inspect or install safety devices, such as safety barriers, lanyards, or personnel harnesses	83
D143 Identify and report equipment or supply problems	83
A67 Review drafts of directives, such as policy directives, instructions, or manuals	67
A6 Conduct self-inspections or self-assessments	67
A45 Evaluate safety or security programs	67
E175 Inspect maintenance vehicle hoists	67
A7 Conduct staff assistance visits, inspections, or audits	67
A38 Evaluate inspection report findings or inspection procedures	50
B98 Inspect training materials or aids for operation or suitability	50

TABLE A10
MAINTENANCE SCHEDULING JOB
(STG119, N=5)

TASKS	PERCENT MEMBERS PERFORMING
A16 Determine or establish work assignments or priorities	100
A22 Develop or establish work schedules	80
A59 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	80
A60 Plan briefings, conferences, or workshops	80
A70 Schedule work assignments or priorities	60
A72 Supervise military personnel	60
A14 Determine or establish logistics requirements, such as personnel, equipment, tools, parts, supplies, or workspace	60
A61 Plan equipment or facility maintenance requirements	60
B90 Develop training materials or aids	60
A5 Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	60
A6 Conduct self-inspections or self-assessments	60
B85 Conduct training conferences, briefings, or debriefings	40
C110 Compile data for records, reports, logs, or trend analyses	40
A21 Develop or establish work methods or procedures	40
A17 Develop organizational or functional charts	40
C132 Maintain or update status indicators, such as boards, graphs, or charts	40
A55 Inspect personnel for compliance with military standards	40
A33 Establish performance standards for subordinates	40
A12 Counsel subordinates concerning personal matters	40
B84 Conduct OJT	40
B99 Maintain training records or files	40
D140 Coordinate maintenance of equipment with appropriate agencies	20

TABLE A11
INSTRUCTOR CLUSTER
(STG060, N=29)

TASKS	PERCENT MEMBERS PERFORMING
B79 Administer or score tests	100
B83 Conduct formal course classroom training	93
B90 Develop training materials or aids	86
B100 Personalize lesson plans	83
B86 Counsel trainees on training progress	79
B97 Evaluate progress of trainees	72
B106 Write test questions	72
B99 Maintain training records or files	69
B88 Develop formal course curricula, plans of instruction (POIs), or specialty training standards (STSs)	55
B89 Develop performance tests	55
A9 Conduct safety inspections of equipment or facilities	48
A12 Counsel subordinates concerning personal matters	48
A55 Inspect personnel for compliance with military standards	45
A24 Direct training functions	41
A43 Evaluate personnel for compliance with performance standards	41
B103 Procure training aids, space, or equipment	38
B98 Inspect training materials or aids for operation or suitability	38
D147 Inventory equipment, tools, parts, or supplies	38
A72 Supervise military personnel	38
B92 Establish or maintain study reference files	34
B91 Develop training programs, plans, or procedures	34
A59 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	34
A8 Conduct supervisory performance feedback sessions	34
B104 Schedule training	31
D142 Evaluate serviceability of equipment, tools, parts, or supplies	31
A6 Conduct self-inspections or self-assessments	31

TABLE A12
MAINTENANCE CONTROLLER CLUSTER
(STG058, N=26)

TASKS	PERCENT MEMBERS PERFORMING
M612 Approve procedural changes or deviations	100
M618 Ensure compliance with anomaly resolution or troubleshooting procedures	88
M616 Conduct or participate in status meetings	88
M620 Ensure compliance with electrical aerospace ground equipment (AGE) inspections or qualification tests	85
M685 Participate in scheduling meetings	85
M622 Ensure compliance with electrical system processings	81
M623 Ensure compliance with flight program or simulated flight test verifications	77
M689 Provide award fee inputs	77
M615 Conduct or participate in readiness reviews	77
M649 Ensure compliance with ground electrical system troubleshooting or anomaly resolution procedures	73
M614 Brief daily operations status	73
M621 Ensure compliance with electrical launch countdown activities	73
M638 Ensure compliance with booster electrical power system checkouts	69
M643 Ensure compliance with booster navigation, guidance, or control system checkouts	69
M635 Ensure compliance with systems tests, such as combined, ground, or integrated	69
M641 Ensure compliance with booster flight termination system checkouts	69
M692 Review operations documents or procedures	69
A59 Participate in general meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	65
M626 Ensure compliance with launch vehicle (LV) flight termination system (FTS) checkouts	62
M633 Ensure compliance with pyrotechnic processing functions	62